Network Video Recorder User Manual

Models

4-Channel NVR with PoE
8-Channel NVR with PoE
16-Channel NVR with PoE
32-Channel NVR with PoE
64-Channel NVR with PoE

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Note: The Network Video Recorder User Manual will no longer be updated. For up to date NVR information, see our Knowledge Base.

https://knowledgebaseclarecontrols.atlassian.net/wiki/display/CVIS/Network+Video+Recorder+%28NVR%29+User+Guide

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Important information

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Installation in accordance with this manual, applicable codes, and the instructions of the authority having jurisdiction is mandatory.

While every precaution has been taken during the preparation of this manual to ensure the accuracy of its contents, Clare Controls, Inc. assumes no responsibility for errors or omissions.

Advisory messages

Advisory messages alert you to conditions or practices that can cause unwanted results. The advisory message used in this document is shown and described below.

Note: Note messages advise you of the possible loss of time or effort. They describe how to avoid the loss. Notes are also used to point out important information that you should read.

Chapter 1
Introduction

Introduction

Front panel

Figure 1: 64-Channel NVR front panel

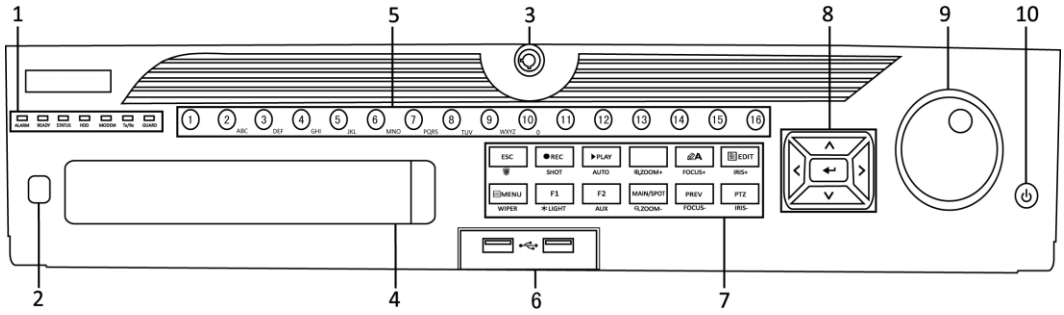


Table 1: 64-Channel NVR control panel buttons

No.	Name		Description
1	Status Indicators	ALARM	Turns red when a sensor alarm is detected
		READY	Blue when the device functions properly
		STATUS	Turns blue when an IR remote controls the device
			Turns red when controlled by a keyboard and purple when the IR remote and keyboard are used at the same time
		HDD	Blinks red when data is being read from or written to HDD
		MODEM	Reserved for future use
		TX/RX	Blinks blue when the network connection is functioning properly
		GUARD	Guard indicator turns blue when the device is in armed status
			The indicator turns off when the device is unarmed. Pressing and holding the ESC button for more than three seconds in Live View mode can change the arm/disarm status.
2	IR Receiver		Receiver for the IR remote

3	Front Panel Lock		Lock or unlock the panel with the key
4	DVD-R/W		Slot for DVD-R/W
5	Alphanumeric Buttons		Switch to the corresponding channel in Live view or PTZ Control mode
			Switch between different channels in Playback mode
			The button is blue when the corresponding channel is recording; red when the channel is in network transmission status; and pink when the channel is recording and transmitting
6	USB Interfaces		Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD)
7	Composite Keys	ESC	Return to the previous menu
			Press for arming or disarming the device in Live View mode
		REC/SHOT	Enter the Manual Record setting menu
			In the PTZ control settings, press REC/SHOT and then press a Numeric button to call a PTZ preset
			Turn audio on and off in Playback mod
		PLAY/AUTO	Use to enter Playback mode
			Use to auto-scan in the PTZ Control menu
		ZOOM+	Zoom in the PTZ camera in the PTZ Control setting
		A/FOCUS+	Adjust focus in the PTZ Control menu
			Use to switch between input methods (upper and lowercase alphabet, symbols and numeric input)
		EDIT/IRIS+	Edit text fields. When editing text fields, it functions as a Backspace button
			On check box fields, pressing the button will check the box
			In PTZ Control mode, the button adjusts the iris of the camera
			Use in Playback mode to generate video clips for backup
			Enter or exit the folder of USB device and eSATA HDD
		MAIN/SPOT/ ZOOM	Switch between main and spot output
			Use in PTZ Control mode to zoom out of the image

		F1/LIGHT	Select all items on the list when used in a list field.
			In PTZ Control mode, it will turn on/off PTZ light (if applicable).
			Use in Playback mode to switch between play and reverse play.
		F2/AUX	Cycle through tab pages.
			In synchronous playback mode, it is used to switch between channels.
		MENU/WIPER	Press the button to return to the Main menu (after successful login).
			Press and hold the button for 5 seconds will turn off audible key beep.
			In PTZ Control mode, the MENU/WIPER button will start wiper (if applicable).
			In Playback mode, it is used to show/hide the control interface.
		PREV/FOCUS	Switch between single screen and multi-screen mode.
			In PTZ Control mode, it is used to adjust the focus in conjunction with the A/FOCUS+ button.
		PTZ/IRIS-	Enter the PTZ Control mode.
			In the PTZ Control mode, it is used to adjust the iris of the PTZ camera.
8	Control Buttons	DIRECTION	The DIRECTION buttons are used to navigate between different fields and items in menus.
			In the Playback mode, use the Up and Down button to speed up and slow down recorded video. The Left and Right button select the next and previous record files.
			In Live View mode, use these buttons to cycle through channels.
			In PTZ control mode, control the movement of the PTZ camera.
		ENTER	The ENTER button is used to confirm selection in any of the menu modes.
			Use to check the check box fields.
			In Playback mode, it is used to play or pause the video.
			In single-frame Playback mode, pressing the button will advance the video by a single frame.
			In Auto-switch mode, use to stop /start auto switch.
9	JOG SHUTTLE Control		Move the active selection in a menu. It will move the selection up and down.
			In Live View mode, use to cycle through different channels.
			In the Playback mode: For 64-Channel NVRs, the ring is used to jump 30s forward/backward in video files.
			In PTZ control mode, it control the movement of the PTZ camera.
10	POWER ON/OFF		Power on/off switch.

Figure 2: 16-Channel NVR and 32-Channel NVR front panel

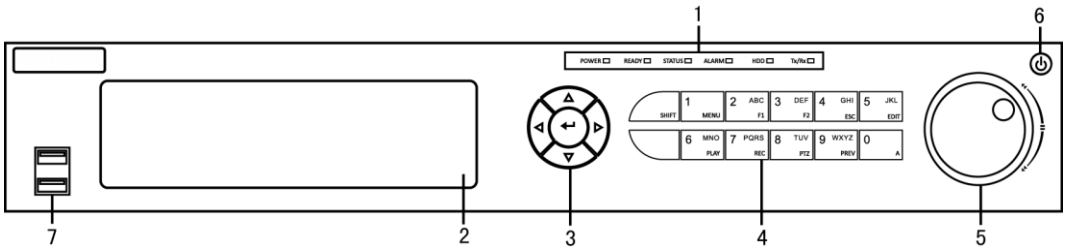


Table 2: 16-Channel NVR and 32-Channel NVR control panel buttons

No.	Name		Description
1	Status Indicators	POWER	Turns green when NVR is powered up.
		READY	The indicator is green when the device is running normally.
		STATUS	The light is green when the IR remote control is enabled. The light is red when the function of the composite keys (SHIFT) are used. The light is out when none of the above condition is met.
		ALARM	The light is red when there is an alarm occurring.
		HDD	Blinks red when HDD is reading/writing.
		Tr/Tx	Blinks green when network connection is functioning normally.
2	DVD-R/W		Slot for DVD-R/W.
3	Control Buttons	DIRECTIONS	In menu mode, use the direction buttons to navigate between different fields, items, and select setting parameters.
			In playback mode, use the Up and Down buttons to speed up and slow down record playing. The Left and Right buttons are used to move the recording 30 seconds forwards or backwards.
			In the image setting interface, the up and down button can adjust the level bar of the image parameters. In live view mode, use them to switch channels.
		ENTER	The Enter button is used to confirm selection in menu mode; or used to check the check box fields and ON/OFF switch.
			In playback mode, use it to play or pause the video.
			In single-frame play mode, pressing the Enter button will play the video by a single frame.
			In auto sequence view mode, use the buttons to pause or resume auto sequence.

4	Composite Keys	SHIFT	Switch between the numeric or letter input and functions of the composite keys. (Input letter or numbers when the light is out; Realize functions when the light is red.)
		1/MENU	Access the main menu interface.
		2/ABC/F1	The F1 button, when used in a list field, selects all items in the list.
			In PTZ Control mode, it will turn on/off PTZ light and when the image is zoomed in, the key is used to zoom out.
		3/DEF/F2	The F2 button is used to change the tab pages.
			In PTZ control mode, it zooms in the image.
		4/FHI/ESC	Exit and back to the previous menu.
		5/JKL/EDIT	Delete characters before cursor.
			Check the check box and select the ON/OFF switch.
			Start/stop record clipping in playback.
		6/MNO/PLAY	Playback, for direct access to playback interface.
		7/PQRS/REC	Open the manual record interface.
		8/TUV/PTZ	Access PTZ control interface.
		9/WXYZ/PREV	Multi-channel display in live view.
		0/A	Shift the input methods in the editing text field. (Upper and lowercase, alphabet, symbols or numeric input).
			Double-press the button to switch the main and auxiliary output.
5	JOG SHUTTLE Control		Move the active selection in a menu. It will move the selection up and down.
			In Live View mode, use it to cycle through different channels.
			In the Playback mode, use it to jump 30s forward/backward in video files.
			In PTZ control mode, it controls the movement of the PTZ camera.
6	POWER ON/OFF		Power on/off switch.
7	USB Interfaces		Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).

Figure 3: 4-Channel and 8-Channel NVR front panel

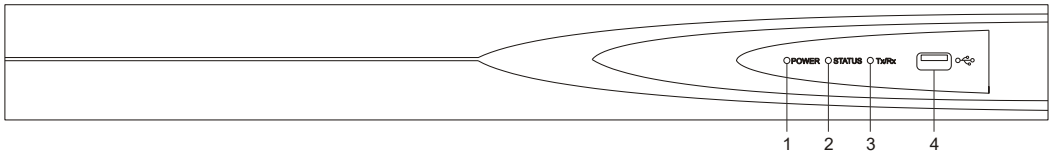


Table 3: 4-Channel and 8-Channel NVR control panel buttons

No.	Name	Description
1	Power	The POWER LED turns green when NVR is powered up.
2	Status	READY: The LED is green when the device is running normally.
		STATUS: 1) The light is green when the IR remote control is enabled. 2) The light is red when the function of the composite keys (SHIFT) is used. 3) The light is out when none of the above condition is met.
		ALARM: The light is red when there is an alarm occurring.
		HDD: The LED flashes red when HDD is reading/writing.
3	Tx/Rx	TX/RX LED flashes green when network connection is functioning normally.
4	USB	USB connector.

IR remote control operations

The included IR remote controls the NVR, shown below. The keys on the remote control closely resemble the ones on the front panel.

Note: Install batteries (2 × AAA) before operation.

Figure 4: Remote control

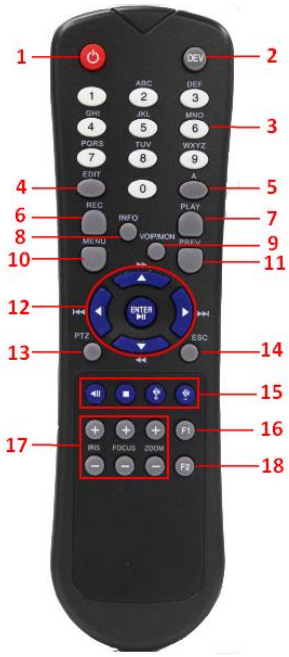


Table 4: Remote control buttons

No.	Name	Description
1	POWER	Power on/off the device.
2	DEV	Enables/Disables Remote Control.
3	Alphanumeric buttons	Same as Alphanumeric buttons on front panel.
4	EDIT button	Same as EDIT/IRIS+ button on front panel.
5	A button	Same as A/FOCUS+ button on front panel.
6	REC button	Same as REC/SHOT button on front panel.
7	PLAY button	Same as the PLAY/AUTO button on front panel.
8	INFO button	Reserved.
9	VOIP/MON button	Same as the MAIN/SPOT/ZOOM- button on front panel.
10	MENU button	Same as the MENU/WIPER button on front panel.
11	PREV button	Same as the PREV/FOCUS- button on front panel.
12	DIRECTION/ENTER buttons	Same as the DIRECTION/ENTER buttons on front panel.
13	PTZ button	Same as the PTZ/IRIS- button on front panel.
14	ESC button	Same as the ESC button on front panel.
15	RESERVED	Reserved for future use.
16	F1 button	Same as the F1/LIGHT button on front panel.
17	PTZ Control buttons	Buttons to adjust the iris, focus and zoom of a PTZ camera.
18	F2 button	Same as the F2/AUX button on front panel.

Troubleshooting the remote control

Note: Make sure you have installed the batteries properly in the remote control. Aim the remote control at the IR receiver in the front panel.

If you press a button and do not receive a response, follow the procedures below to troubleshoot.

To troubleshoot the remote control:

1. Go to Menu > Settings > General > More Settings using the front control panel or the mouse.
2. Check and remember the NVR ID. The default ID number is 255. This ID number is valid for all the IR remote controls.
3. Press the DEV button on the remote control.
4. Enter the NVR ID number from step 2.
5. Press ENTER on the remote.

If the Status indicator on the front panel turns blue, the remote control is operating properly. If the Status indicator does not turn blue and there is no response from the remote, check the following:

- Batteries are installed correctly and the polarities of the batteries are not reversed.
- Batteries are fresh and charged.
- IR receiver is not obstructed.

If the remote still is not functioning properly, change remotes and try again, or contact your dealer.

USB mouse operation

A regular three-button (Left/Right/Scroll-wheel) USB mouse works with the NVR.

To use a USB mouse:

1. Plug USB mouse into one of the USB interfaces on the front panel of the NVR.
2. The mouse is detected automatically. If in the rare case the mouse is not detected, it is possible that the two devices are not compatible. Refer to the recommended device list from your provider.

The mouse operation

Table 5: Mouse control

Name	Action	Description
Left-click	Single-click	Live view: Select channel and show the quick set menu. Menu: Select and enter.
	Double-click	Live view: Switch between single-screen and multi-screen.
	Click and drag	PTZ control: Pan, tilt and zoom. Video tampering, privacy mask and motion detection: Select target area. Digital zoom-in: Drag and select target area. Live view: Drag channel/time bar.
Right-click	Single-click	Live view: Show menu. Menu: Exit current menu to previous menu.
Wheel- scroll	Scrolling up	Live view: Previous screen. Menu: Previous item.
	Scrolling down	Live view: Next screen. Menu: Next item.

Input method description

Use the soft keyboard to enter text. Click 123 to view the numeric keyboard.

Figure 5: Soft alpha-numeric keyboard

Figure 6: Soft numeric keyboard

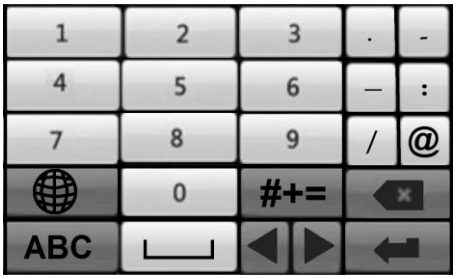


Table 6: Soft keyboard icons

Icons	Description
123	Numeric keypad
␣	Space
ABC	Alpha-numeric keyboard
#+=	Symbols
⌫	Backspace
Enter	Enter

Rear panel

Figure 7: 64-Channel NVR rear panel

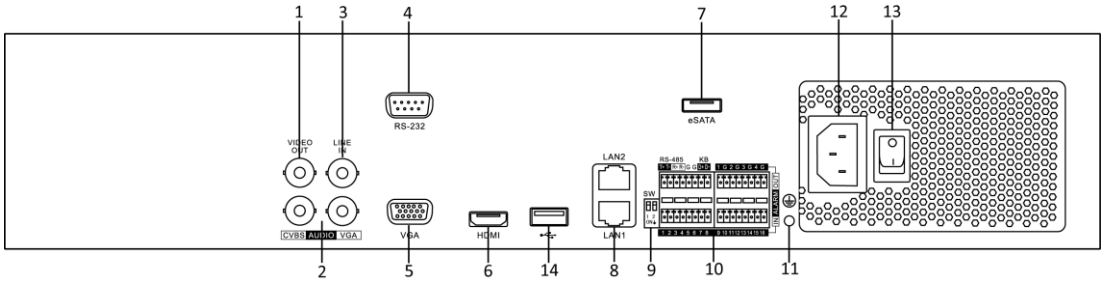


Table 7: 64-Channel NVR rear panel connections

No.	Name	Description
1	VIDEO OUT	BNC connector for video output.
2	CVBS AUDIO OUT	BNC connector for audio output. This connector is synchronized with CVBS video output.
	VGA AUDIO OUT	BNC connector for audio output. This connector is synchronized with VGA video output.
3	LINE IN	BNC connector for audio input.
4	RS-232 Interface	Connector for RS-232 devices.
5	VGA	DB9 connector for VGA output. Display local video output and menu.
6	HDMI	HDMI video output connector.
7	eSATA (Optional)	Connects external SATA HDD, CD/DVD-RM. 2 eSATA interfaces.
8	LAN Interface	2 network interfaces.
9	Termination Switch	RS-485 termination switch. Up position is not terminated. Down position is terminated with 120 Ω resistance.
10	RS-485 Interface	Connector for RS-485 devices. T+ and T- pins connect to R+ and R- pins of PTZ receiver respectively.
	Controller Port	D+/D- pin connects to Ta, Tb pin of controller. For cascading devices, the first NVR's D+/D- pin connects with the D+/D- pin of the next NVR.
	ALARM IN	Connector for alarm input.
	ALARM OUT	Connector for alarm output.
11	GROUND	Ground (connect before starting the NVR).
12	AC 100 to 240 V	AC 100 to 240 V power supply.
13	POWER	Switch for turning on/off the device.
14	USB interface	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).

Figure 8: 16-Channel and 32-Channel rear panel connections

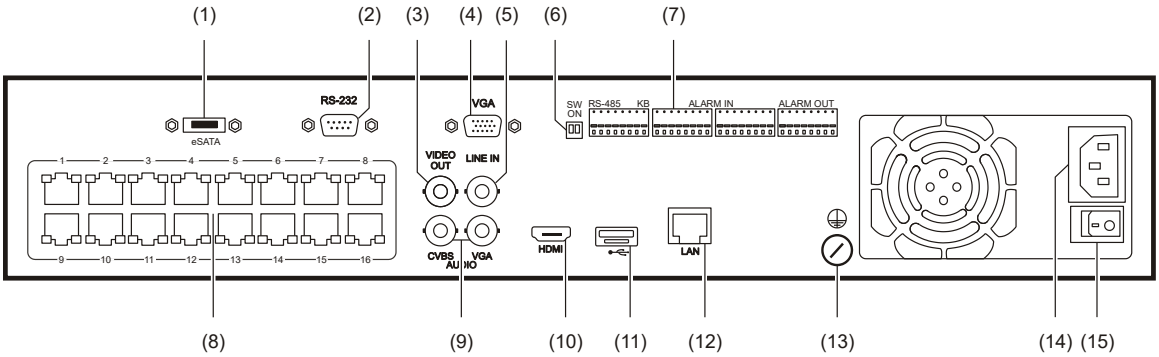


Table 8: 16-Channel and 32 Channel rear panel connections

No.	Item	Description
1	eSATA (Optional)	Connects an external hard drive.
2	RS-232 Interface	Connector for the RS-232 devices.
3	VIDEO OUT	BNC connector for the video output.
4	VGA	VGA output 15 pin connector. Displays the local video output and the menu.
5	LINE IN	BNC connector for the audio input.
6	Termination Switch	RS-485 termination switch. The up position is not terminated. The down position is terminated with 120 Ω resistance.
7	RS-485 Interface	Connector for the RS-485 devices. The T+ and T- pins connect to the R+ and R- pins of the PTZ receiver respectively.
	Controller Port	The D+, and the D- pin connects to the Ta, and the Tb pin of the controller. For cascading devices, the first NVR's D+, D- pin should be connected with the D+, D- pin of the next NVR.
	ALARM IN	Connector for alarm input.
	ALARM OUT	Connector for alarm output.
8	Network Interfaces with PoE function	Network interfaces for the cameras and to provide power over Ethernet (PoE).
9	CVBS AUDIO OUT	BNC connector for the audio output. This connector is synchronized with the CVBS video output.
	VGA AUDIO OUT	BNC connector for the audio output. This connector is synchronized with the VGA video output.
10	HDMI	HDMI video output.
11	USB interface	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
12	LAN Interface	One network interface provided.
13	GROUND	Ground (must be connected when the NVR starts.)
14	AC 100 V to 240 V	AC 100 V to 240 V power input.
15	POWER	Switch for turning the device on/off.

Figure 9: Older model 16-Channel and 32-Channel rear panel connections (models vary)

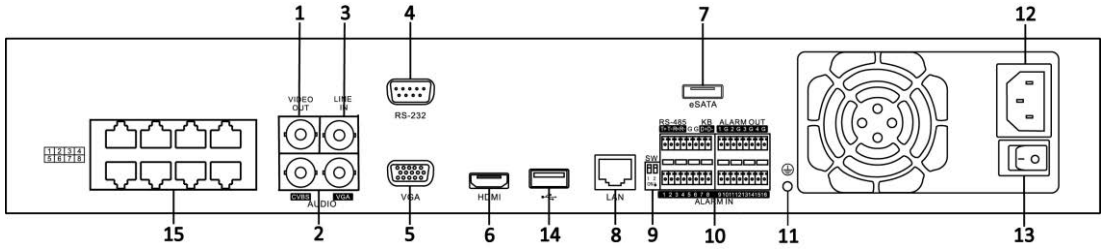


Table 9: 16-Channel and 32 Channel rear panel connections (models vary)

No.	Name	Description
1	VIDEO OUT	BNC connector for video output.
2	CVBS AUDIO OUT	BNC connector for audio output. This connector is synchronized with CVBS video output.
	VGA AUDIO OUT	BNC connector for audio output. This connector is synchronized with VGA video output.
3	LINE IN	BNC connector for audio input.
4	RS-232 Interface	Connector for RS-232 devices.
5	VGA	DB9 connector for VGA output. Display local video output and menu.
6	HDMI	HDMI video output connector.
7	eSATA (Optional)	Connects external SATA HDD, CD/DVD-RM. 2 eSATA interfaces.
8	LAN Interface	1 network interface provided.
9	Termination Switch	RS-485 termination switch. Up position is not terminated. Down position is terminated with 120 Ω resistance.
10	RS-485 Interface	Connector for RS-485 devices. T+ and T- pins connect to R+ and R- pins of PTZ receiver respectively.
	Controller Port	D+/D- pin connects to Ta, Tb pin of controller. For cascading devices, the first NVR's D+/D- pin connects with the D+/D- pin of the next NVR.
	ALARM IN	Connector for alarm input.
	ALARM OUT	Connector for alarm output.
11	GROUND	Ground (connect before starting the NVR).
12	AC 100 to 240V	AC 100 to 240 V power supply.
13	POWER	Switch for turning on/off the device.
14	USB interface	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
15	Network Interfaces with PoE function	Network interface for the cameras and to provide power over Ethernet.

Figure 10: 8-Channel rear panel

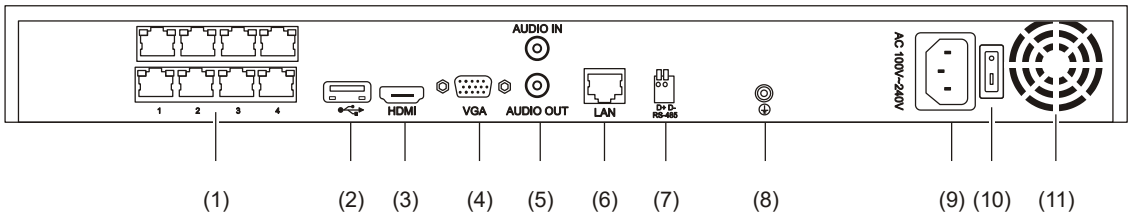


Table 10: 8-Channel rear panel connections

No.	Item	Description
1	Network Interfaces with PoE function	Network interfaces for the cameras and provides power over Ethernet.
2	USB	Connects USB disks and devices.
3	HDMI	HDMI video output connector.
4	VGA	DB9 connector for VGA output. Display local video output and menu.
5	AUDIO IN	BNC connector for audio input. (Also for two-way audio.)
	AUDIO OUT	BNC connector for audio output.
6	LAN Interface	1 network interface.
7	RS-485 Interface	Connector for RS-485 devices. T+ and T- pins connect to R+ and R- pins of PTZ receiver respectively.
8	Ground	Ground (needs to be connected before the NVR starts up).
9	Power Supply	12 VDC power supply.
10	Power Switch	Switch for turning on/off the device.
11	Fan	Removes heat from the device.

Figure 11: 4-Channel rear panel

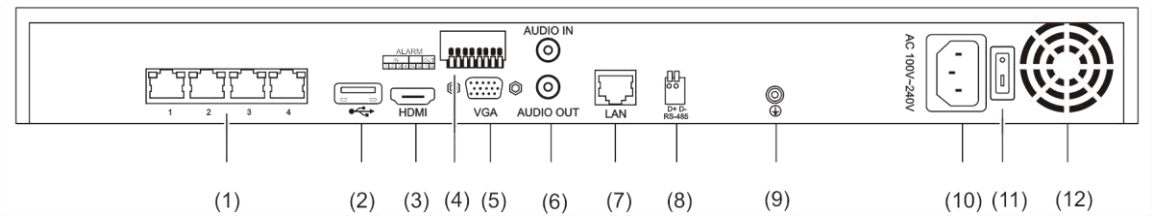


Table 11: 4-Channel

No.	Name	Description
1	Network Interfaces with PoE function	Network interfaces for the cameras and to provide power over Ethernet.
2	USB	Connects USB disks and devices.
3	HDMI	HDMI video output connector.
4	Alarm Controls Interface	Connector for alarm inputs and outputs.
5	VGA	DB9 connector for VGA output. Display local video output and menu.
6	AUDIO IN	BNC connector for audio input (also for two-way audio).
	AUDIO OUT	BNC connector for audio output.
7	LAN Interface	1 network interface.
8	RS-485 Interface	Connector for RS-485 devices. T+ and T- pins connect to R+ and R- pins of PTZ receiver respectively.
9	Ground	Ground (connect before starting the NVR).
10	Power Supply	12 VDC power supply.
11	Power Switch	Switch for turning on/off the device.
12	Fan	Removes heat from and cools the device.

Chapter 2
Getting Started

Starting up and shutting down the NVR

Proper startup and shutdown is crucial to expanding the life of the NVR. Before you start, check that the voltage of the extra power supply matches the NVR's requirement, and that the ground connection is working properly.

To start the NVR:

1. Check that the power supply is plugged into an electrical outlet. We recommend that you use an Uninterruptible Power Supply (UPS) with the device. The Power indicator LED on the front panel is red, indicating the device is getting power.
2. Press the power button on the front panel. The power indicator LED turns blue, indicating start up.
3. After startup, the Power indicator LED will remain blue. A splash screen with the status of the HDD appears on the monitor. Click the Live View screen to view the Quick menu. The Quick menu, a row of icons at the bottom of the screen, shows the HDD status. 'X' means that the HDD is not installed or is not detected.
4. On the Live View screen, right click for the Right-click menu to appear, see Figure 12 below. Click Menu, on the top of the Right-click menu to display the Top menu, see Figure 13 below. From the Top menu, configure the advanced settings or shutdown the NVR.

Figure 12: Right-click menu

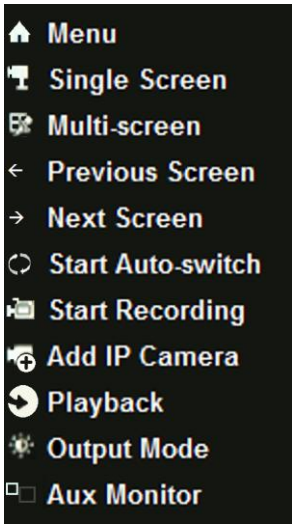
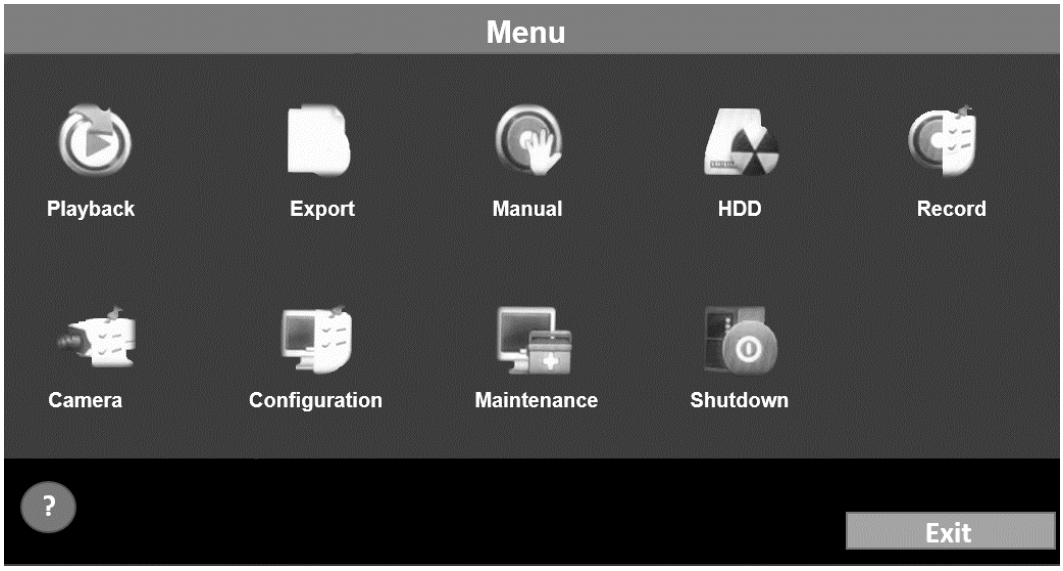


Figure 13: Top menu



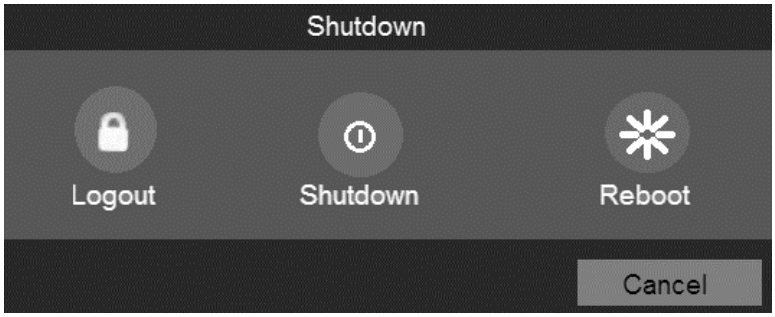
Shutting down the NVR

There are two ways to shut down the NVR.

To shut down the NVR (Option 1):

1. Click Menu > Shutdown. (See Figure 14.)
2. Click Shutdown.
3. Click Yes.

Figure 14: Shutdown menu



To shut down the NVR from the front panel (Option 2):

1. Press and hold the power button on the front panel for three seconds.
2. Enter the administrator's username and password in the dialog box for authentication.
3. Click Yes.

Note: Do not press the power button again when the system is shutting down.

Rebooting the NVR

Reboot the NVR in the Shutdown menu.

To reboot the NVR from the Shutdown menu:

1. Click Menu > Shutdown.
2. Click Reboot to reboot the NVR.

Using the wizard for basic configuration

By default, the Wizard starts once the NVR loads, as shown in Figure 15.

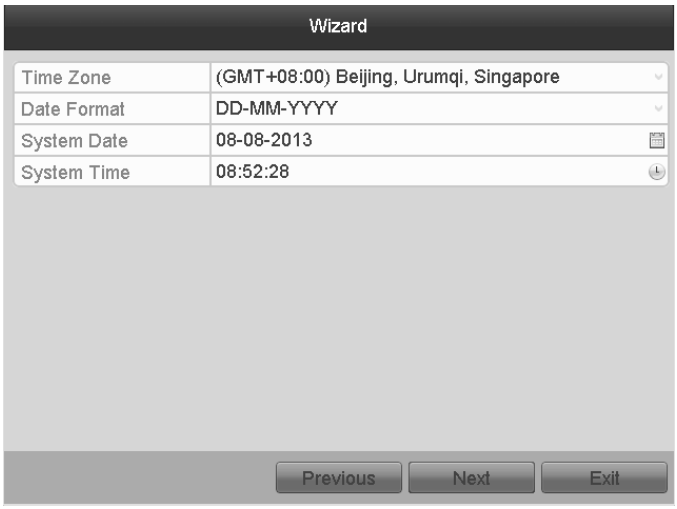
Figure 15: Wizard interface

To use the Wizard:

1. The Wizard walks you through important settings of the NVR. If you do not want to use the Wizard, click the Cancel button. You can choose to use the Wizard the next time you use the NVR by checking the “Start wizard when the device starts?” check box.
2. Click Next on the Wizard to enter the Login window.

3. Enter the admin password. By default, the password is secure7.
4. To change the admin password, check the New Admin Password check box. Enter and confirm the new password in the given fields.

5. Click the Next button to enter the date and time settings window.



6. After configuring the time settings, click Next. This returns you to the Network Setup Wizard window.

Figure 16: 64-Channel NVR network configuration

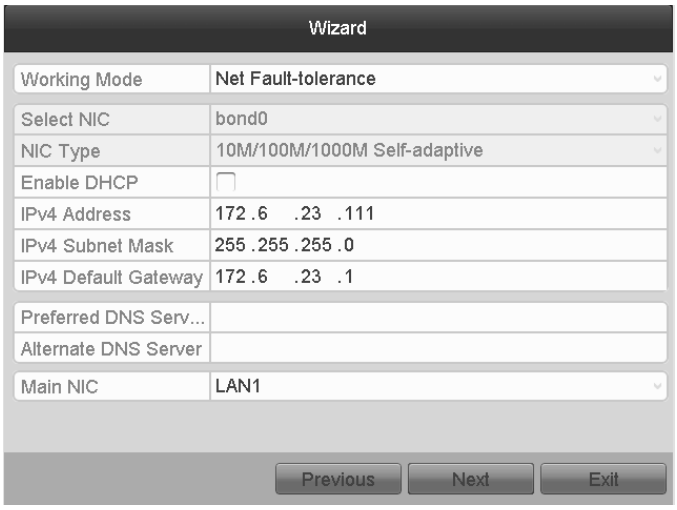
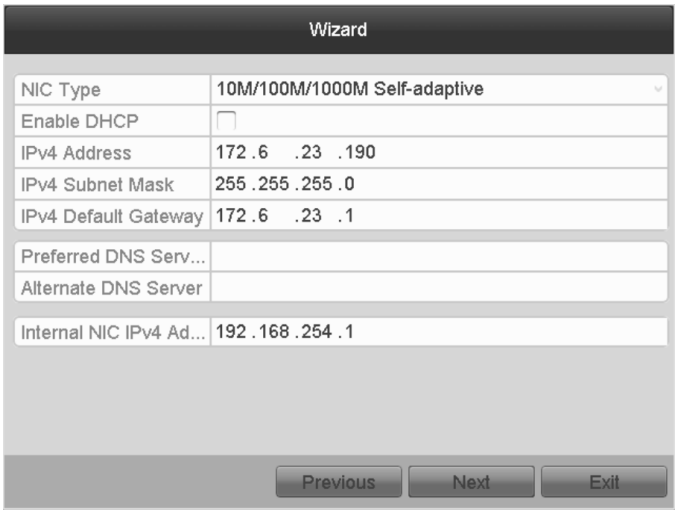


Figure 17: 4-Channel, 8-Channel, 16-Channel, and 32-Channel network configuration



Note: Dual-NIC is only available in the 64-Channel NVR device. For the 4-Channel NVR, 8-Channel NVR, 16-Channel NVR, and 32-Channel NVR, configure the internal NIC IPv4 address for the cameras connecting to the PoE network interface of the NVR.

7. Configure the network parameters, and then click Next. The Array Management window displays (Only supported by the 64-Channel NVR).

8. Configure the network parameters, and then click Next. The HDD Management window displays.

9. To initialize the HDD, click Init.

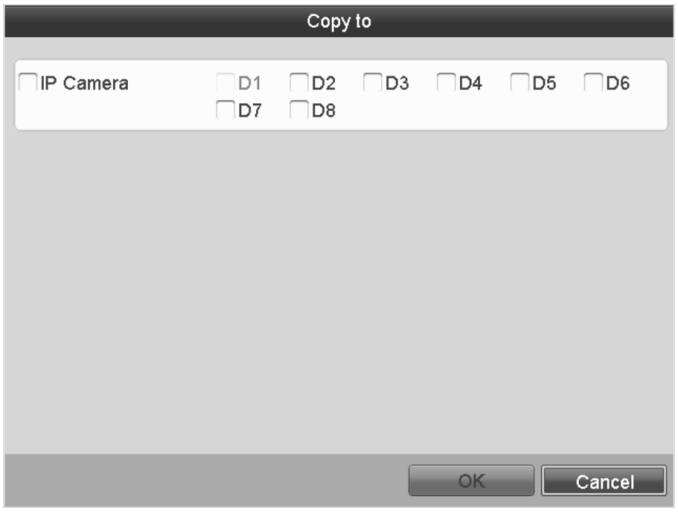
   Note: Initialization removes all the data saved in the HDD.

10. Click Next to enter the Adding IP Camera interface.

11. Click Search to find online IP Camera. Select the desired IP camera, and then click Add.

12. Click Next. Configure the recording for the IP cameras.

13. Click Copy to copy the settings to other channels.



14. Click OK to complete the startup Setup Wizard.

Adding and connecting the IP cameras

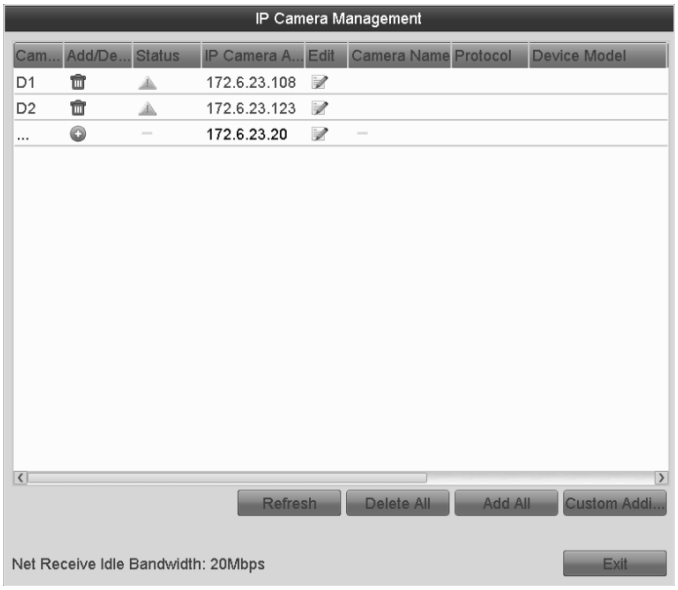
Adding the online IP cameras

The main function of the NVR is to connect and record the network cameras video stream. Add the network camera to the connection list to get a live view and record of the video.

Before you start, ensure that the network connection is correct. For detailed instructions about checking and configuring the network, see “Checking network traffic” and “Configuring network detection” on page 115.

To add an online camera manually:

1. Right-click the mouse in Live View mode to show the dialog window.
2. Add the online cameras with same network. The detected online cameras display in the camera list, as shown below.



3. Click the Add button to add the camera.

To custom add other IP cameras:

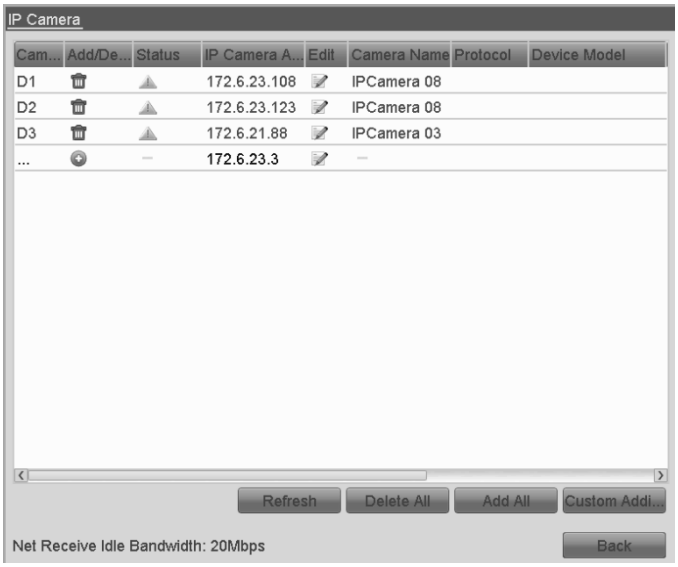
1. Click the Custom Adding button to display the Add IP Camera (Custom) interface, as shown below.

   You can edit the IP camera's IP address, protocol, management port, and other information.

2. Click Add to add the camera.

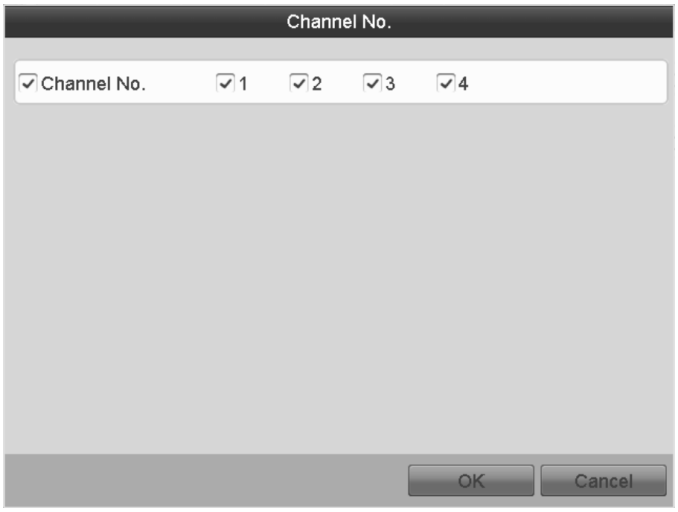
To add IP cameras using the Camera Management interface:

1. Click Menu > Camera > Camera.
2. Add the online cameras with same network. The detected online camera displays in the camera list, as shown below.



3. Click the Add button to add the camera

4. For encoders with multiple channels, check the Channel No. check box in the Channel Selection window, and then click OK to finish adding.



Editing the connected IP cameras and configuring customized protocols

After adding the IP cameras, the basic settings are listed on the page. Configure the basic settings of each IP camera.

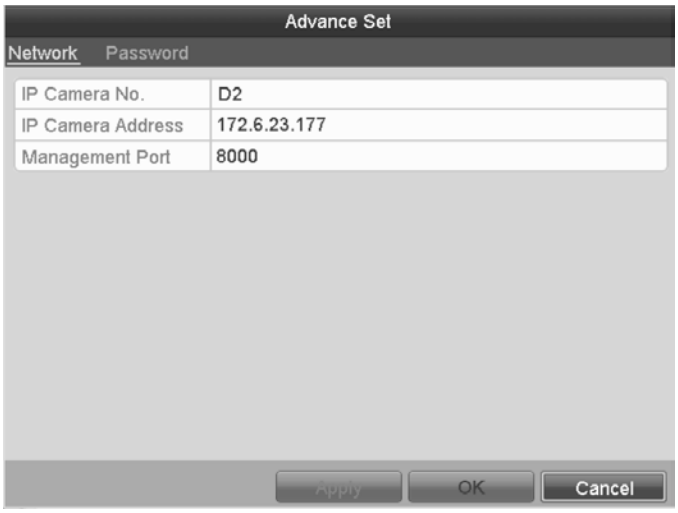
To configure the basic settings:

1. Click to edit the parameters.

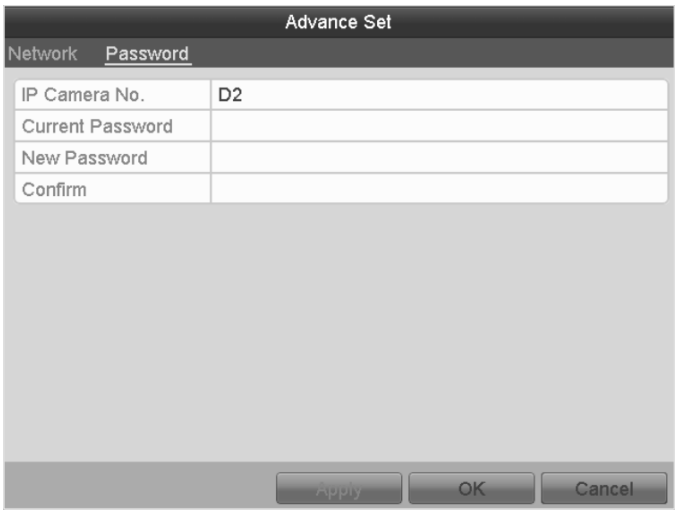
2. Click OK to save the settings and exit the window.

To edit advanced parameters:

1. Drag the horizontal scroll bar to the right side, and then click to display the Advance Set window.



2. Edit the network information and password for the camera.



3. Click Apply to save the settings, and then click OK to exit the window.

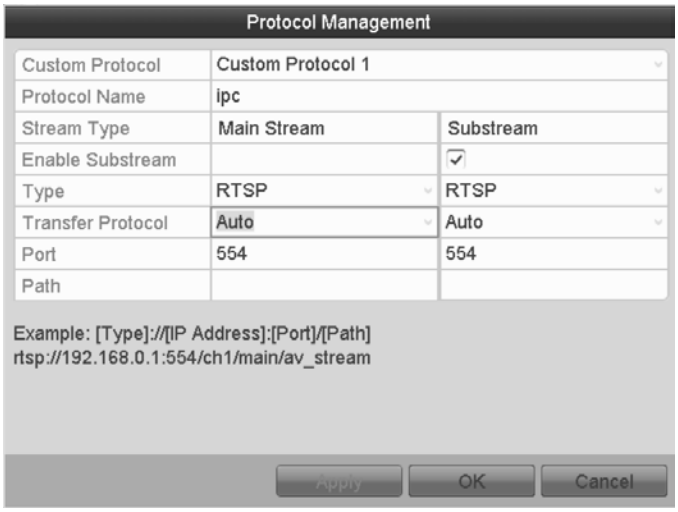
Configuring the customized protocols

When connecting network cameras that are not configured with the standard protocols, configure customized protocols.

To configure customized protocols:

1. Click the Protocol button in the Add IP Camera (Custom) interface to enter the Protocol Management interface.

   There are sixteen customized protocols provided in the system. You can edit the protocol name and choose whether to enable the sub-stream.



2. Choose the protocol type, and then choose the transfer protocols.

   Note: The network camera must support the protocol and transfer protocol types.

   After adding the customized protocols, the protocol name displays in the drop-down list.

3. Select the protocol you added to validate connection to the network camera.

Editing IP cameras connected to the PoE interfaces

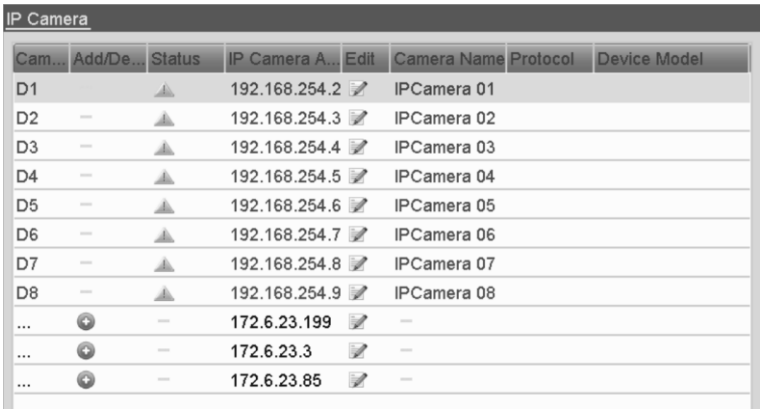
The PoE interface allows the NVR system to pass electrical power and data through Ethernet cables. Up to eight PoE interfaces can connect to the network cameras. To use an online network camera, you must first disable a PoE interface. One PoE interface is disabled for each online network camera. The PoE interface supports the Plug-and-Play function.

Example:

When using 4-Channel, 8-Channel, 16-Channel, or 32-Channel NVRs, to connect two online cameras and six network cameras via PoE interfaces, you must disable two PoE interfaces for the online cameras.

To add cameras for NVRs supporting PoE function:

1. Connect the network cameras via the PoE interfaces.
2. Click Main menu > Camera > Camera, to view a list of connected cameras, as shown below.



Note: You cannot delete the cameras connecting to the PoE interface in this menu.

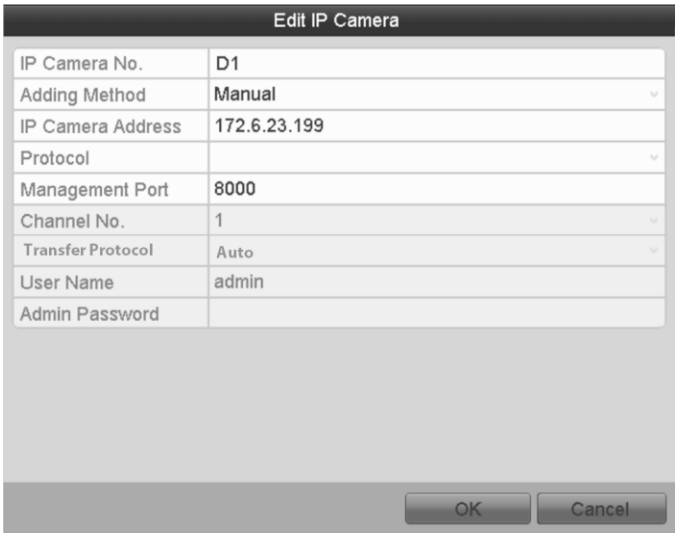
3. Click , and then select the Adding Method in the drop-down list.

4. Choose one of the following.

   Plug-and-Play: Connect the camera to the PoE interface. You cannot edit the camera parameters when choosing this option. The camera's IP address can only be edited in the Network Configuration interface. See "Configuring general settings" on page 103 for detailed information.

   - or -

   Manual: This disables the PoE interface. The current channel is used as a normal channel and the parameters is edited.



Chapter 3
Introduction to Live View

Introduction to Live View

Operations in Live View mode

The Live View mode functions are listed below.

- **Single Screen**: Shows only one screen on the monitor.
- **Multi-screen:** Shows multiple screens on the monitor simultaneously.
- **Auto-switch:** The screen is auto switched to the next one. You must set the dwell time for each screen on the configuration menu before enabling auto-switch.

  Menu > Configuration > Live View > Dwell Time.
- **Start Recording:** This starts recording, continuous record and motion detection record are supported.
- **Output Mode:** Select the output mode; Standard, Bright, Gentle or Vivid.
- **Playback:** Playback the recorded videos for current day.
- **Aux/Main output switch:** The NVR checks the connection of the output interfaces. The priority level for the main and aux output is HDMI > VGA > CVBS. This means if the HDMI is used, it is the main output. If HDMI is not used, the VGA output is set as the main output. See Table 12.
- **Next screen:** Moves to the next screen.
- **Previous screen:** Returns to the previous screen.
- **Menu:** Displays the Live Mode menu.
- **Add IP camera:** Adds an IP camera to Live Mode.

Table 12: Priorities of interfaces

No.	HDMI	VGA	CVBS	Main output	Auxiliary output
1	√	√	√	HDMI	VGA
2	√	×	√	HDMI	CVBS
3	×	√	√	VGA	CVBS
4	×	×	√	CVBS	n/a

√ - the interface is in use.
× - the interface is not in use, or the connection is invalid.
HDMI, VGA and CVBS is used at the same time.

When the Aux output is enabled, the main output cannot operate. Some basic operations is performed in the Live View mode for the Aux output.

Note: For the 4-Channel and the 8-Channel, there is only one audio output, the VGA output has a higher priority over CVBS output.

Front panel operation in Live View

Table 13: Front panel operation in Live View mode

Functions	Front Panel Operation
Show multi-screen	Press the PREV/FOCUS- button.
Manually switch screens	Next screen: right/down direction button. Previous screen: left/up direction button.
Auto-switch	Press Enter button.
Playback	Press Play button.
Switch between main and aux output	Press Main/Aux button.

Using the mouse in Live View

Table 14: Mouse operation in Live View

Icons	Description
Menu	Enter the system menu by clicking the icon.
Single Screen	Switch to the single full screen.
Multi-Screen	Multi-screen layout.
Next/ Previous	Switch to the previous /next screen.
Start Auto-Switch	Start the auto-switch of the screens.
Start Recording	Start recording all channels.
Adding IP Cameras	Add an IP camera.
Playback	Enter the playback interface and start playing back the video of the selected channel immediately.
Output Mode	Four modes of output supported, including Standard, Bright, Gentle and Vivid.
Aux Monitor	Switch to the auxiliary output mode and the operation for the main output is disabled.

Notes

- Screen layouts 1×5 and 1×7 are not supported by the 4-channel NVR.
- If you enter the Aux monitor mode and the Aux monitor is not connected, the mouse operation is disabled. You must switch back to the Main output with the MAIN/AUX button on the front panel or use the remote.
- If the corresponding camera supports intelligent function, the Reboot Intelligence option is included when right-clicking the mouse on the camera.
- The dwell time of the Live View configuration is set before using Start Auto-switch.

  Note: Dwell time is programmable. It is set and changed in the Live View Menu.

Figure 18: Dwell time menu

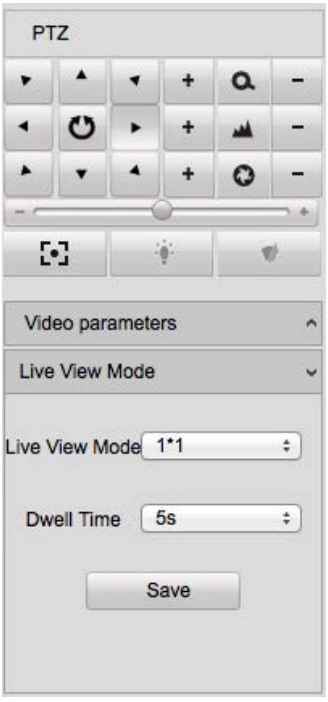
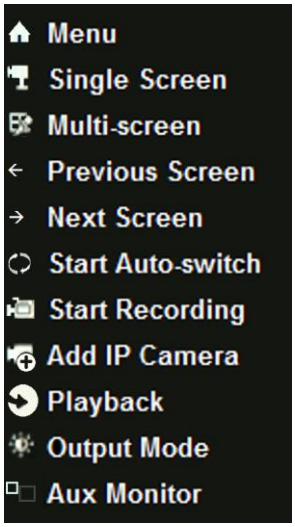


Figure 19: Right-click menu



Using an auxiliary monitor

Some features of Live View are also available while on an Aux monitor. These features include:

- **Single Screen:** Switch to a full screen display of the selected camera. The camera is selected from a drop-down list.
- **Multi-screen:** Switch between different display layout options. Layout options is selected from a drop-down list.

- **Next Screen:** When displaying less than the maximum number of cameras in Live View, clicking this feature switches to the next set of displays.
- **Playback:** Enters Playback mode.
- **PTZ:** Enters the PTZ Control mode.
- **Main Monitor:** Enters the Main operation mode.

Note: In the Live View mode of the main output monitor, the menu operation is not available when the Aux output mode is enabled.

Quick Setting toolbar in Live View mode

Clicking the screen of a channel displays the Quick Settings toolbar.

Figure 20: Quick Settings toolbar

Table 15: Quick Settings toolbar icons

	Enable/Disable Instant Record
	Instant Playback [1]
/	Mute/Audio on
	Capture
	PTZ Control
	Digital Zoom [2]
	Image Settings [3]
	Live View Strategy [4]
	Add channel
	Picture Zoom
	Close

[1] Instant Playback only shows the recording in last five minutes. If no recording is found, there was no recording in the last five minutes.

[2] Digital Zoom can zoom to make the selected area full screen. Click and draw to select the area to zoom, as shown in Figure 21.

[3] Click the Image Settings icon to enter the Image Settings menu, as shown in Figure 22. You can change the image parameters.

[4] Live View Strategy is selected to set strategy, including Real-time, Balanced, and Fluency, as shown in Figure 23.

Figure 21: Digital zoom

Figure 22: Image settings - preset

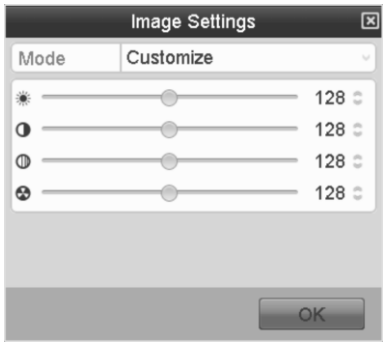


Figure 23: Live View Strategy

Adjusting Live View settings

You can customize the Live View settings according to your different needs. You can configure the output interface, dwell time, mute or turn on the audio, and view the screen number for each channel, etc.

To adjust Live View settings:

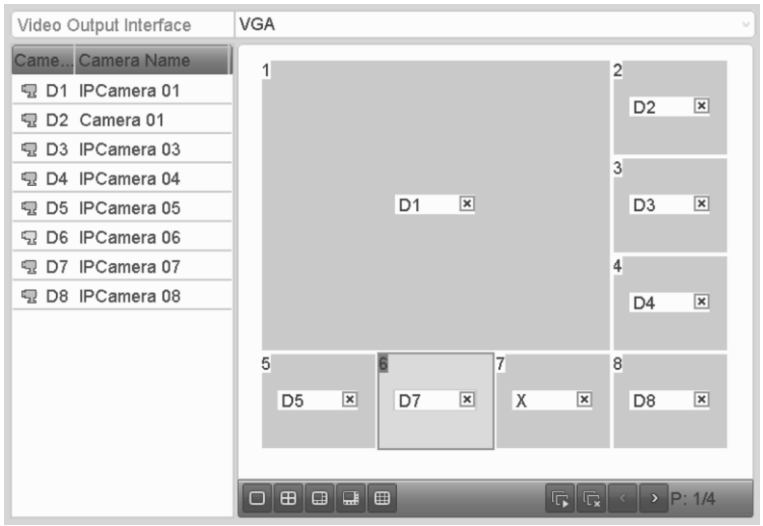
1. Go to the Live View Settings interface (Menu > Configuration > Live View).

Table 16: Live View settings

Video Output Interface	Designates the output for setting configuration. Outputs include HDMI (depends on the model), VGA, Main CVBS, and Spot Output. **Note:** There is no CVBS out for the 4-Channel and 8-Channel NVR.
Live View Mode	Designates the display mode used for Live View.
Dwell Time	The time (in seconds) to dwell between switching channels when |auto-switch is enabled in Live View.
Enable Audio Output	Enables/disables audio output for the selected video output.
Event Output	Designates the output to show the event video.
Full Screen Monitoring Dwell Time	The time (in seconds) to show the alarm event screen.

Setting cameras order

Figure 24: Live View – camera order



To set the camera order:

1. Select a view mode using the toolbar icons .

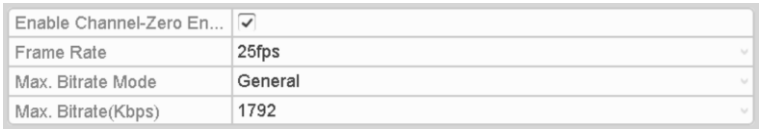
2. Select the small window, and then double-click the channel number to display the channel in the window.
3. Click the button to start live view for all the channels, and then click to stop all live viewing.
4. Click the Apply button to save the setting.

Channel-zero encoding

Sometimes a remote view of channels in real time from a web browser or CMS (Client Management System) software is necessary. In order to decrease the bandwidth requirement without affecting image quality, channel-zero encoding is supported.

To configure channel-zero encoding:

1. Enter the Live View Settings interface (Menu > Configuration > Live View).
2. Select the Channel-Zero Encoding tab.



3. Check the check box after Enable Channel-Zero Encoding.
4. Configure the Frame Rate, Max. Bitrate Mode, and Max. Bitrate.
5. Click the Apply button to save the settings.

After you set the Channel-Zero encoding, you can view all of the channels in one screen using a remote client or web browser.

User logout

After logging out, the monitor turns to the Live View mode. If you want to perform an operation, you must enter the user name and password to log in again.

To logout:

1. Enter the Shutdown menu (Menu > Shutdown).
2. Click Logout.

Note: After logging out the system, menu operation on the screen is invalid. You must enter a user name and password to unlock the system.

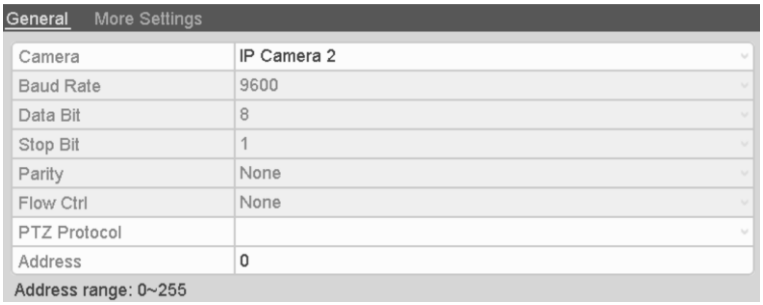
Chapter 4
Configuring PTZ Settings

Configuring PTZ settings

Follow the procedure to set the parameters for PTZ (Pan, Tilt, Zoom). You should configure the PTZ parameters before you control the PTZ camera.

To configure PTZ settings:

1. Enter the PTZ Settings interface (Menu > Camera > PTZ).



2. Select the camera for PTZ use in the Camera drop-down list.
3. Enter the parameters of the PTZ camera.

   Note: All parameters must match the PTZ camera's parameters. For example, if the PTZ camera uses the protocol PRIVATE, select PRIVATE in the PTZ Protocol field.
4. Click Apply to save the settings.

Setting PTZ presets, patrols, and patterns

Note: Make sure that the presets, patrols, and patterns are supported by PTZ protocols.

Customizing presets

Follow the steps below to set the preset location for the PTZ camera to point when an event takes place.

To set the preset location:

1. Enter the PTZ Control interface (Menu > Camera > PTZ > More Settings).

2. Use the directional buttons to wheel the camera to the location you want to preset.
3. Click **Save Preset**.
4. Click the preset number to save the preset.
5. Repeat the steps 2 through 4 to save more presets.

   Note: If you want to save more than 17 presets, click […] and choose the available number.

Calling presets

This feature allows the camera to point to a specified position, such as a window, when an event takes place.

To call preset in the PTZ setting interface:

1. Enter the PTZ Control interface (Menu > Camera > PTZ > More Settings).
2. Click Call Preset.

3. Choose the preset number.

To call preset in Live View mode:

1. Press the PTZ button on the front panel, or click the PTZ Control icon in the Quick Setting bar, to enter the PTZ setting menu in Live View mode.

2. Choose Camera in the list on the menu.
3. Double-click the preset in the list to call it.

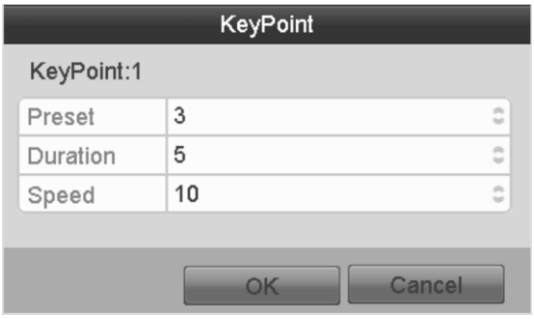
Customizing patrols

You can set patrols to move the PTZ to different key points and have it stay there for a set duration before moving on to the next key point. The key points correspond to the presets.

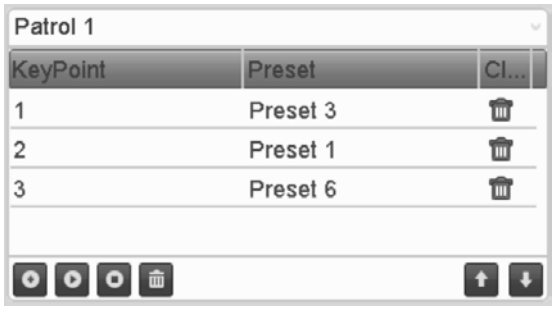
To customize patrols:

1. Enter the PTZ Control interface (Menu > Camera > PTZ > More Settings).
2. Select patrol number in the drop-down list of patrols.
3. Click under the Patrol option box to add key points for the patrol.

4. Configure key point parameters, such as the key point No., duration, and speed of patrol. The key point corresponds to the preset. The KeyPoint No. determines the order the PTZ will follow while cycling through the patrol. The Duration refers to the time span the PTZ stays at the corresponding key point. The Speed defines the speed at which the PTZ moves from one key point to the next.



5. Click OK to save the key point to the patrol.
6. Repeat the above steps to add more key points.
7. Click the icon to delete the corresponding key point, and then click the trash icon again to delete all the key points.
8. Select a key point, then click or button to adjust the order of the key points.



Calling patrols

Calling a patrol makes the PTZ camera move according to the predefined patrol path.

To set calling patrol in the PTZ setting interface:

1. Browse to the PTZ setting interface (Menu > Camera > PTZ > More Settings).
2. Select the patrol number, and then click to call the patrol.
3. Click to stop it.

To set calling patrol in Live View mode:

1. Press PTZ control on the front panel or on the remote.

   – or –

   Click the PTZ Control icon on the quick setting toolbar, to show the PTZ control toolbar.
2. Choose Patrol on the control bar.
3. Double-click the patrol or select the patrol and click to call it.

Customizing patterns

Recording the movement of the PTZ can set patterns. You can call the pattern to make the PTZ movement according to the predefined path.

To set customized patterns:

1. Enter the PTZ Control interface (Menu > Camera > PTZ > More Settings).
2. Choose the pattern number in the option box.

3. Click and use your mouse to drag the image or click the eight directional buttons in the control box under the image to move the PTZ camera.
4. The movement of the PTZ is recorded as the pattern.
5. Click to save the pattern.

Calling patterns

Follow the procedure to move the PTZ camera according to the predefined patterns.

To set a calling pattern in the PTZ setting interface:

1. Enter the PTZ Control interface (Menu > Camera > PTZ > More Settings).
2. Select the pattern number.
3. Click . The PTZ moves according to the pattern. Click to stop it.

To set a calling pattern in Live View mode:

1. In the Live View mode, press PTZ control on the front panel or on the remote control.

   – or –

   Click PTZ Control icon on the quick setting panel.
2. Choose Pattern on the control bar.
3. Double-click the pattern or select the pattern and click to call it.

PTZ control panel

In the Live View mode, press the PTZ Control button on the front panel, on the remote control, or choose the PTZ Control icon to enter the PTZ panel.

Figure 25: PZT panel

Table 17: PZT panel icons

	Direction and auto-cycle buttons
+	Zoom+, Focus+, Iris+
-	Zoom-, Focus-, Iris-
	The speed of the PTZ movement
	Auto focus
	Light on/off
	Wiper on/off
Preset	Preset
Patrol	Patrol
Pattern	Pattern
	Menu
	Previous item
	Next item
	Start pattern/patrol
	Stop the patrol or pattern movement
	Minimize windows
	Exit

Chapter 5
Record and Capture Settings

Configuring parameters

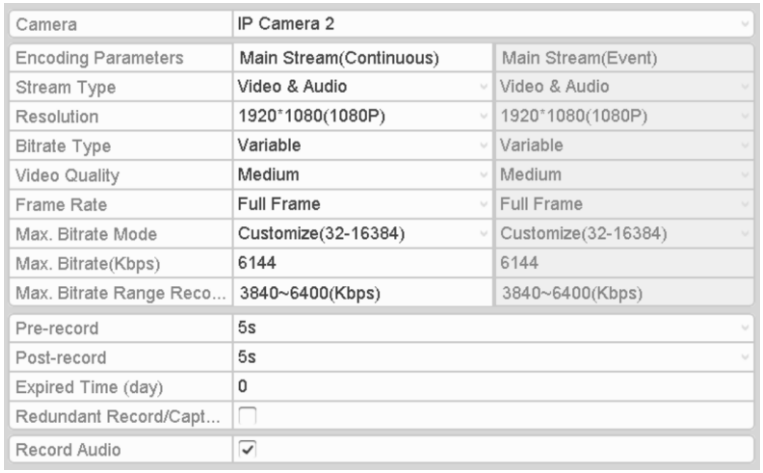
By configuring the encoding parameters you can define the parameters that affect the image quality, such as the transmission stream type, the resolution, and so on.

1. Make sure that the HDD is installed. If not, install and initialize it now. (Menu > HDD > General)

2. Check the storage mode of the HDD.
    a. Click Advanced to check the storage mode of the HDD.
    b. If the HDD mode is set to Quota, set the maximum record capacity and maximum picture capacity.
    c. If the HDD mode is set to Group, you should set the HDD group. For detailed information, see Configuring HDD group for recording and capture.

To configure the parameters:

1. Enter the Record settings interface to configure the encoding parameters (Menu > Record > Parameters).



2. Select the Record tab page to configure. You can configure the stream type, the resolution, and other parameters on demand.

   Pre-record: The time you set to record before the scheduled time or event. For example, when an alarm triggers the NVR to record at 10:00 and you set the pre-record time as 5 seconds, the NVR records it at 9:59:55.

   Post-record: The time you set to record after the event or the scheduled time. For example, when an alarm triggers the recording ends at 11:00, and you set the post-record time as 5 seconds, it records till 11:00:05.

   Expired Time: The expired time (days) is the longest time for the NVR to keep a recorded file in the HDD. When it reaches its deadline, the NVR deletes the file. You can set the expired time to 0 to prevent the file from being deleted. The HDD capacity determines the actual amount of time the file is kept.

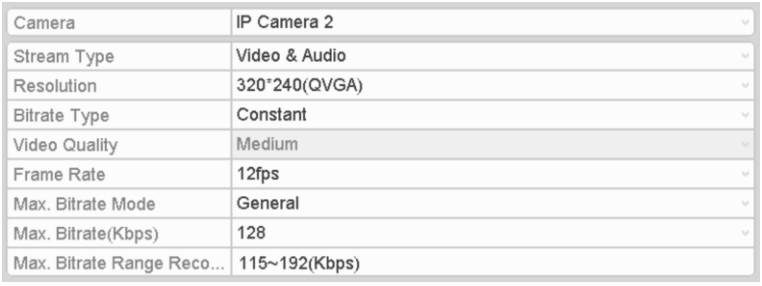
   Redundant Record/ Capture: Enabling redundant record or capture means you save the record and captured picture in the redundant HDD. (This is a 64-channel NVR feature only.)

   Record Audio: Check the check box to enable or disable audio recording.

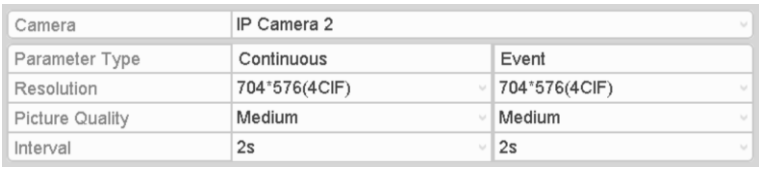
3. Click Apply to save the settings.

   Note: Use the redundant record/capture feature when you want the camera to save the record files or captured pictures in the redundant HDD. You must configure the redundant HDD in HDD settings.

4. Enter the Sub-stream tab page.



5. Configure the parameters of the camera.
6. Click Apply to save the settings.
7. Select the Capture tab, and then configure the settings.



8. Click Apply to save the settings.

   Note: The interval is the time between two capturing actions. You can configure all the parameters on this menu.

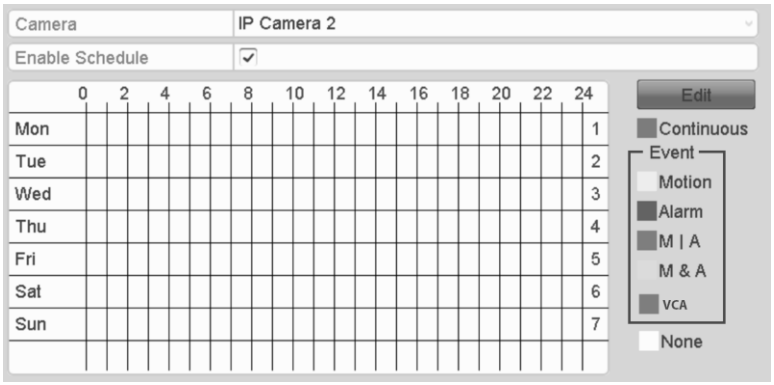
Configuring record/capture schedule

Set the record schedule to automatically start and stop the recording, based on the configured schedule.

In this chapter, we use the record schedule procedure as an example. You can apply the same procedure to configure a schedule for both recording and capture. To schedule the automatic capture, you must click the Capture tab in the Schedule interface.

To configure the schedule:

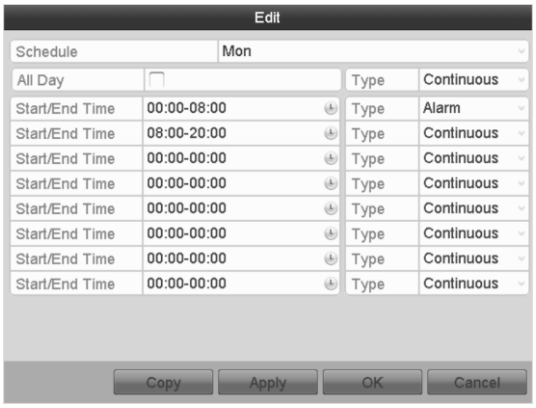
1. Enter the Record Schedule interface (Menu > Record/Capture > Schedule)
2. Select Record/Capture Schedule.



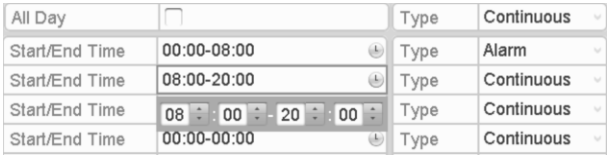
3. Choose the camera to configure.
4. Check the check box after the Enable Schedule item.
5. Click Edit button or click on the color icon under the edit button and draw the schedule line on the panel.

To edit the schedule:

1. In the dialog, you can choose the day when you want to set a schedule.



2. Click the clock button to set the time of the schedule.
3. To schedule an all-day recording, select the All Day check box.



4. To arrange another schedule, set the Start/End time. (Do not select the All Day check box.)

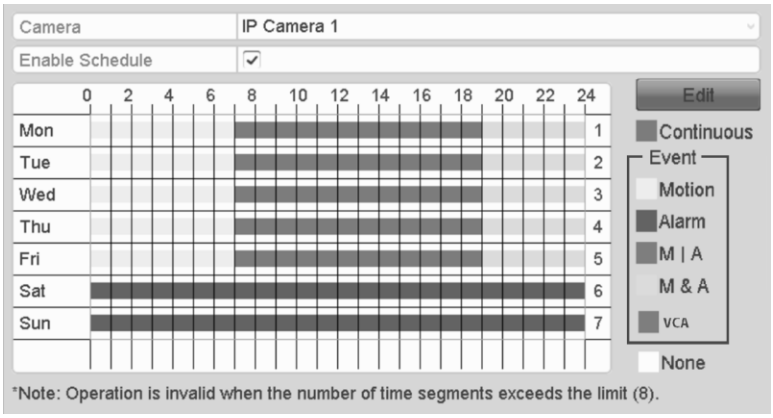
   You can configure up to eight schedules for each day. The schedules cannot overlap each other.

5. Repeat the steps above to schedule recordings or captures for other days in the week. To apply the schedule to other days, click Copy.

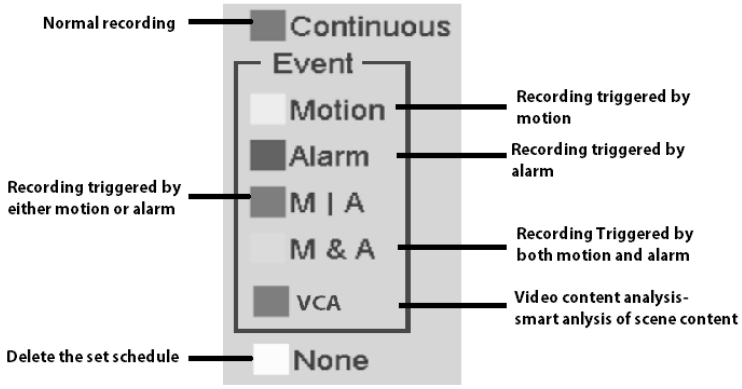
6. Click OK to save the setting and return to the previous menu.
7. Click Apply in the Record Schedule interface to save the settings in the Record menu.

To draw the schedule:

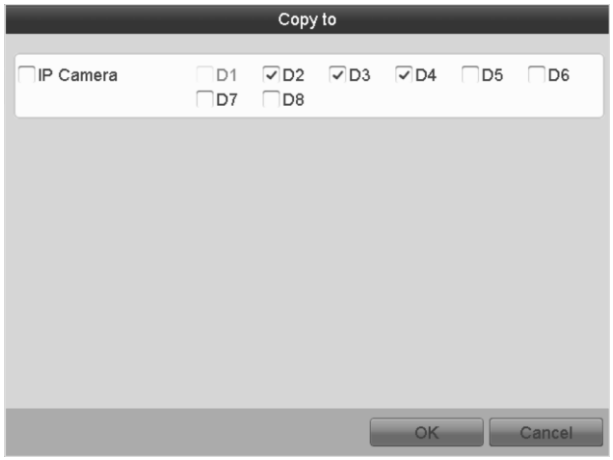
1. Click the color icons. You can choose the schedule type as continuous or event.



Descriptions of the color icons are shown in the figure below.



2. Click Apply to validate the settings.
3. To use the same settings in other channels, click Copy, and then choose the channel to copy to.

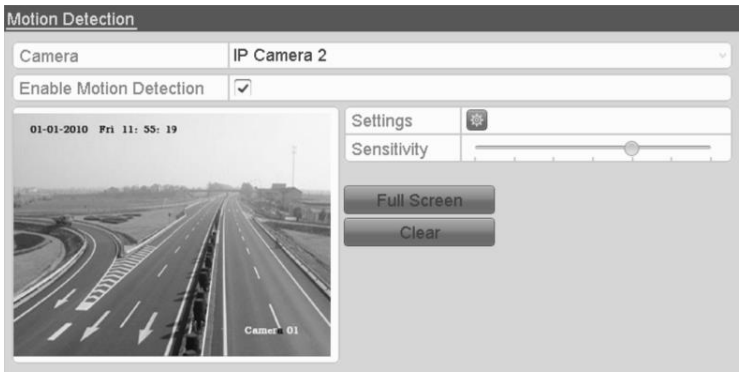


Configuring motion detection record and capture

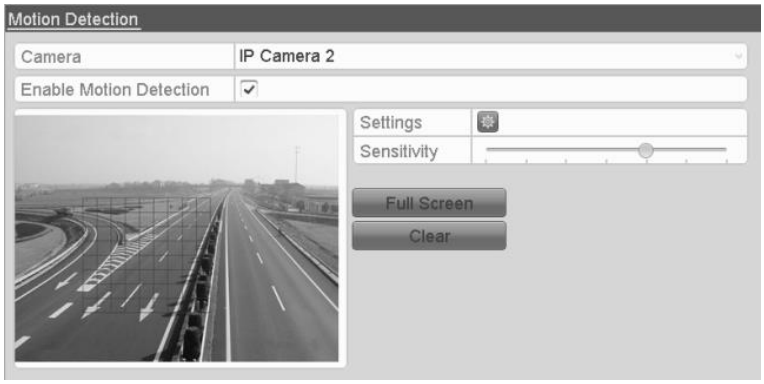
Follow the steps to set the motion detection parameters. In the Live View mode, once a motion detection event takes place, the NVR can analyze it and respond. Enabling the motion detection function can trigger certain channels to start recording, trigger full screen monitoring, audio warning, notify the surveillance center, and so on. In this chapter, you can follow the steps to schedule a recording triggered by detected motion.

To configure motion detection:

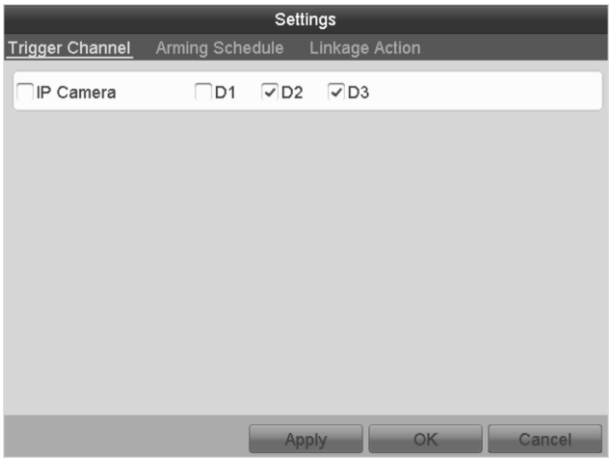
1. Enter the Motion Detection interface (Menu > Camera > Motion).



2. Choose camera you want to configure.
3. Check the check box after Enable Motion Detection.
4. Using your mouse, drag and draw the area for motion detection. If you want to set the motion detection for the entire area viewed by the camera, click Full Screen. To clear the motion detection area, click Clear.



5. Click Settings to display the Settings dialog.



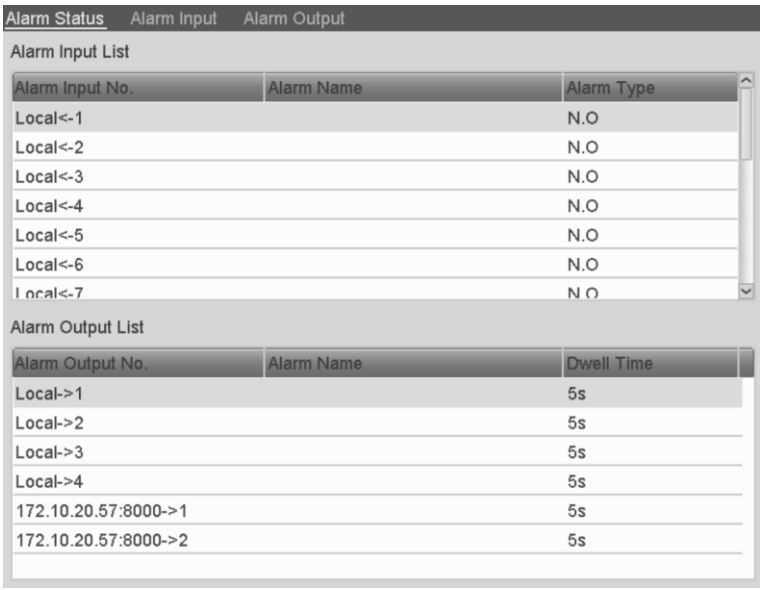
6. Select the channels you want the motion detection event to trigger recording.

7. Click Apply to save the settings.
8. Click OK to return to the previous menu.
9. Exit the Motion Detection menu.
10. Edit the Motion Detection Record Schedule.

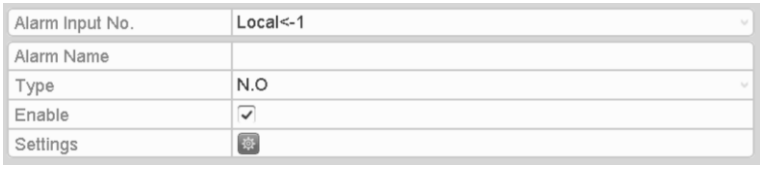
Configuring alarm triggered record and capture

To configure alarm triggered recording or capture:

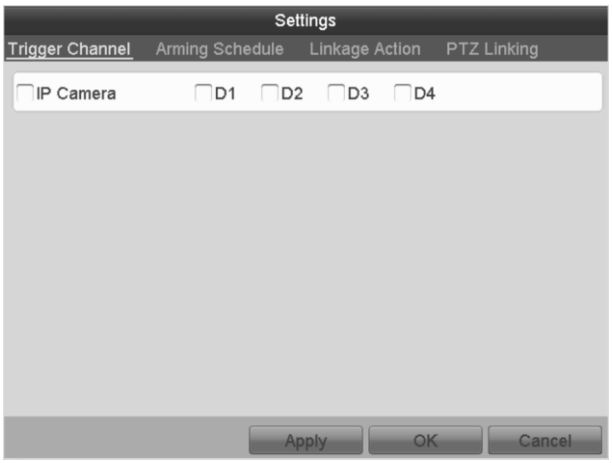
1. Enter the Alarm setting interface (Menu > Configuration > Alarm).



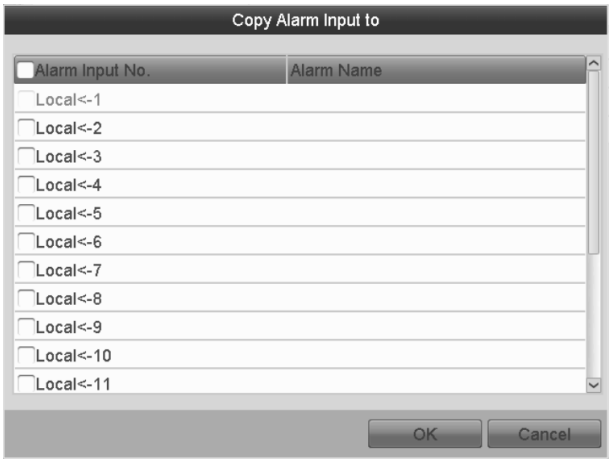
2. Click Alarm Input.



3. Select Alarm Input number and configure alarm parameters.
4. Choose N.O (normally open) or N.C (normally closed) for alarm type.
5. Select the Enable check box.
6. Click Settings.



7. Choose the alarm triggered recording channel.
8. Click the check box to select a channel.
9. Click Apply to save settings.
10. Click OK to return to the previous menu.
11. Repeat the above steps to configure other alarm input parameters.
12. If you want to apply the settings to other alarm inputs, click Copy and choose the alarm input number.



13. Edit the Alarm triggered record in the Record/Capture Schedule setting interface.

Manual record and continuous capture

Follow the steps to set parameters for the manual record and continuous capture. Using manual record and continuous capture, you must manually cancel the record and capture.

To enable manual record:

1. Enter the Manual settings interface (Menu > Manual).

   - or -

   Press the REC/SHOT button on the front panel.

2. To enable manual record, select Record on the left bar.
3. Click the status button before the desired camera number to change OFF to ON.

To disable manual record:

1. Click the status button to change ON to OFF.

   Note: The green ON icon indicates that the channel is configured in the record schedule. After rebooting all the manual records that were enabled are canceled.

To enable continuous capture:

1. Select Continuous Capture on the left bar.

2. Click the status button before camera number to change OFF to ON.

To disable continuous capture:

1. Click the status button to change ON to OFF.

   Note: The green ON icon indicates that the channel is configured to a capture schedule. After rebooting, all continuous captures are canceled.

Configuring holiday record and capture

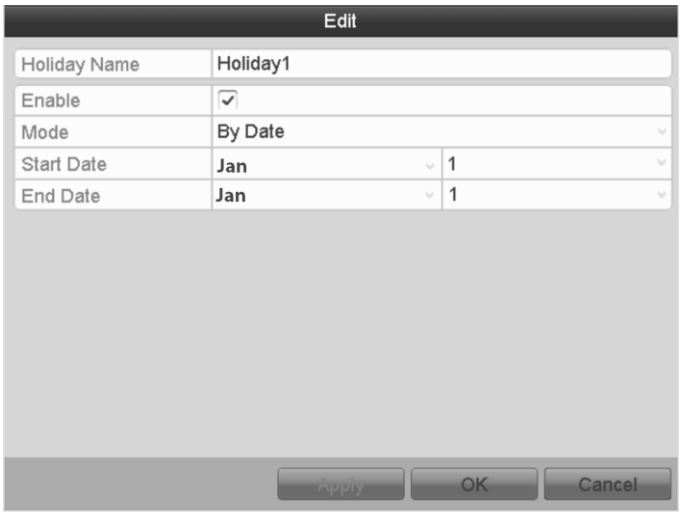
Follow the steps below to configure the record or capture schedule for holidays. You may have different plans for recording and capture on holidays.

To configure holiday record and capture:

1. Enter the Record setting interface (Menu > Record > Holiday).

Holiday Settings
No. Holiday Name Status Start Date End Date Edit
1 Holiday1 Enabled 2013-01-01 2013-01-03
2 Holiday2 Disabled 1.Jan 1.Jan
3 Holiday3 Disabled 1.Jan 1.Jan
4 Holiday4 Disabled 1.Jan 1.Jan
5 Holiday5 Disabled 1.Jan 1.Jan
6 Holiday6 Disabled 1.Jan 1.Jan
7 Holiday7 Disabled 1.Jan 1.Jan
8 Holiday8 Disabled 1.Jan 1.Jan
9 Holiday9 Disabled 1.Jan 1.Jan
10 Holiday10 Disabled 1.Jan 1.Jan
11 Holiday11 Disabled 1.Jan 1.Jan

2. To enable the Edit Holiday schedule, click to enter the Edit interface.



3. Check the Enable check box.
4. Choose Mode from the drop-down list.

   There are three different modes for the date format to configure holiday schedule.
5. Set the start and end date.
6. Click Apply to save your settings.

7. Click OK to exit the Edit interface.
8. Enter the Record/Capture Schedule interface and edit the holiday recording schedule.

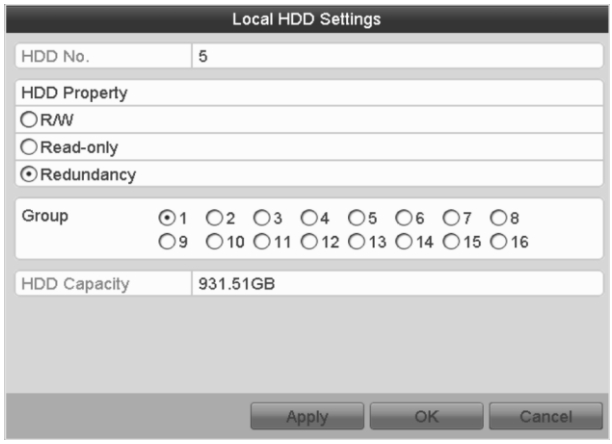
Configuring redundant recording and capture

Enable redundant recording and capture to save the record files and captured pictures in the R/W HDD and in the redundant HDD, if available. This will enhance the data safety and reliability.

To configure redundant recording and capture:

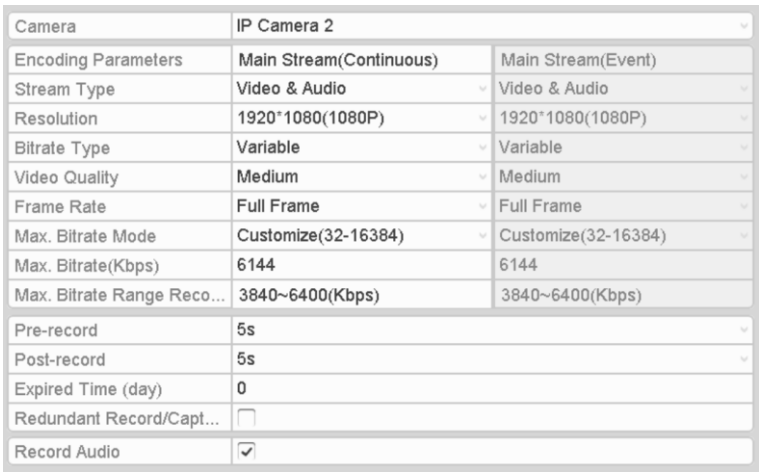
1. Enter HDD Information interface (Menu > HDD).

2. Select the HDD and click to enter the Local HDD Settings interface.
3. Set the HDD property to Redundancy.



4. Click Apply to save the settings.
5. Click OK to return to the previous menu.

   Note: Prior to setting the HDD property to Redundant, set the Storage mode to Group. Read/Write status is required in another HDD
6. Enter the Record setting interface (Menu > Record > Parameters).
7. Select Record tab.



8. Select the camera you want to configure from the drop-down list.
9. Check the Redundant Record/Capture check box (64-channel only).
10. Click OK to save settings and return to the previous menu.
11. Repeat the above steps to configure other channels.

Configuring HDD group for recording and capture

You can group the HDDs and save the record files and captured pictures in various HDD groups.

To configure the HDD group:

1. Enter HDD setting interface Menu > HDD.

2. Select Advanced on the left bar.

3. Set the HDD storage mode to Group.
4. Select General in the left bar.
5. Click to enter editing interface.
6. Choose a group number for the HDD group.
7. Click Apply, and then click Yes to save your settings.
8. Click OK to return to the previous menu.

9. Repeat the above steps to configure more HDD groups.

To choose the channels that you want to save:

1. Select Advanced on the left bar.
2. Choose Group number in the drop-down list of Record on HDD Group
3. Check the channels you want to save in this group.
4. Click Apply to save settings.

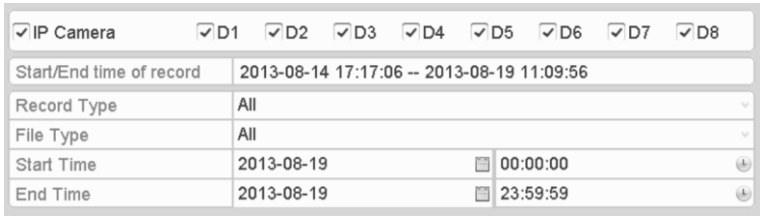
Note: After configuring the HDD groups, you can configure the Recording and Capture settings. Follow “Configuring parameters” on page 45

Files protection

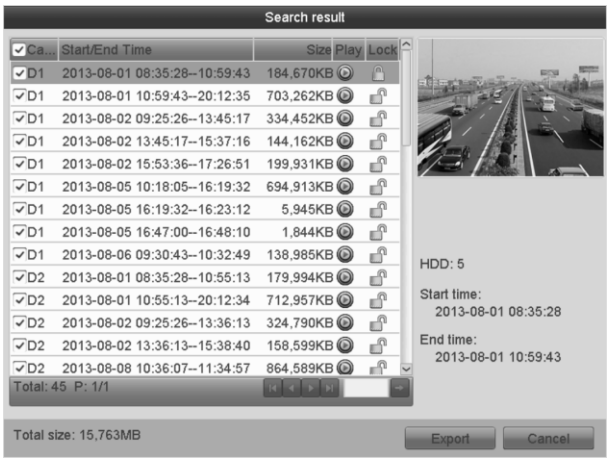
You can lock the recorded files or set the HDD property to Read-only to protect the files from being overwritten.

To lock the files:

1. Enter Export setting interface (Menu > Export).



2. Select the channels you want to investigate by selecting the corresponding check box.
3. Configure the record type, file type start/end time.
4. Click Search to show the results.



To protect the record files:

1. Find the record files you want to protect, and then click to lock the file. The icon now displays locked, indicating that the file is locked.

   Note: The record files with incomplete records are not lockable.

2. Click to unlock the file.

To protect file by setting HDD property to Read-only:

1. Enter HDD setting interface (Menu > HDD)

2. Click to edit the HDD you want to protect.

   Note: To edit HDD property, you must set the storage mode of the HDD to Group. See “Managing the HDD group” on page 137.

3. Set the HDD property to Read-only.
4. Click OK to save the settings and return to the previous menu.

Notes

- You cannot save files in a read-only HDD. If you want to save files in the HDD, change the property to R/W.
- If there is only one HDD and it is set to read-only, the NVR cannot record any files. Only live view mode is available.
- If you set the HDD to read-only when the NVR is saving files, the file is saved in next R/W HDD. If there is only one HDD, the recording is stopped.

Chapter 6
Playback

Playing back record files

Playing back by channel

Play back the recorded video files of a specific channel in the Live View mode. You have two playback options for play back.

Option 1

1. Click in the quick setting toolbar, to choose a channel in Live View mode.

   Note: In instant playback mode, only record files recorded during the last five minutes on this channel are played back.

Option 2

1. Enter the Playback interface.
2. Click in the right-click menu.
3. On the front panel, press the PLAY button to play back record files for the channel in single-screen Live View mode.
4. Under multi-screen Live View mode, the recorded files are played back.

5. The toolbar in the bottom part of Playback interface is used to control play progress, as shown in the figure below.

6. Click the channel(s) to execute simultaneous playback of multiple channels.

Note: The 2013-06-27 08:58:59 -- 2013-08-06 10:32:49 indicates the start/end time of the record.

Table 18: Playback icons

Icons	Description
/	Audio on/ Mute
/	Start/Stop clipping
	30s forward
	30s reverse
	Capture frame
	Lock video
	Add default tag
	Add customized tag
	Tag management
	Speed down
/	Pause/ Reverse play/ Single-frame reverse play

	Pause/ Play/ Single-frame play
	Scaling up/down the time line
	Speed up
	Previous day
	Next day
	Full Screen
	Exit
	Stop
	Digital Zoom
Normal	Video type
	Process bar

Note: On the Playback progress bar, use the mouse to click any point of the progress bar or drag the progress bar to locate special frames.

Playing back by time

Play back video files recorded in a specified time duration. Multi-channel simultaneous playback and channel switch are supported.

To play back by time:

1. Enter the playback interface (Menu > Playback).
2. Select the channel(s) in the channel list, and then double-click to select a date on the calendar.

Note: If there are record files for a specific day, the icon for that day is highlighted 5, if not, it appears normally 7 . The selected date is surrounded by a green rectangle 6.

3. Use the toolbar at the bottom part of the Playback interface to control play, as shown in Figure 26.

Figure 26: Playback by time toolbar

Note: The 14-08-2013 17:17:06 -- 19-08-2013 11:09:56 indicates the start/end time of the record.

Table 19: Playback by time icons

Icons	Description
/	Audio on/ Mute
/	Start/Stop clipping
	30s forward
	30s reverse
	Capture frame
	Lock video
	Add default tag
	Add customized tag
	Tag management
	Speed down
/	Pause reverse play/ Reverse play/ Single-frame reverse play

	Pause play/ Play/ Single-frame play
	Scaling up/down the time line
	Speed up
	Previous day
	Next day
	Full Screen
	Exit
	Stop
	Digital Zoom
	Video type
	Process bar

Note: Click any point of the Playback progress bar, or drag the bar, to locate specific frames.

Playing back by event search

Play back record files on one or several channels searched out by restricting event type (e.g., alarm input and motion detection).

To play back by event search:

1. Enter the Playback interface (Menu > Playback).
2. Select the Event in the drop-down list on the top-left side.
3. Select Alarm Input or Motion for the event type, and then edit the Start and End time.

Figure 27: Alarm input search interface

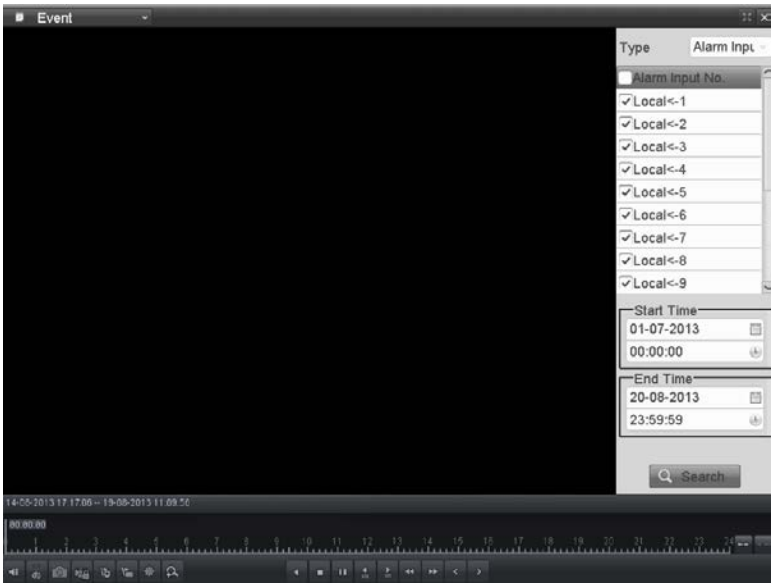
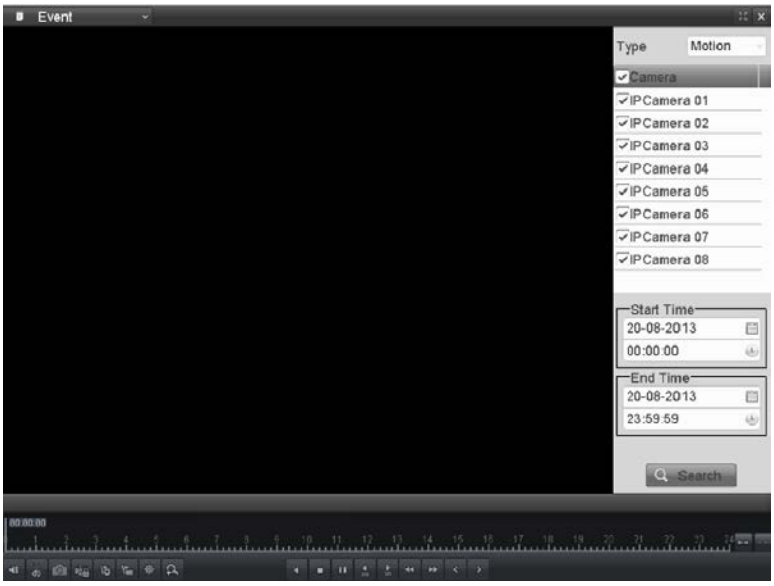
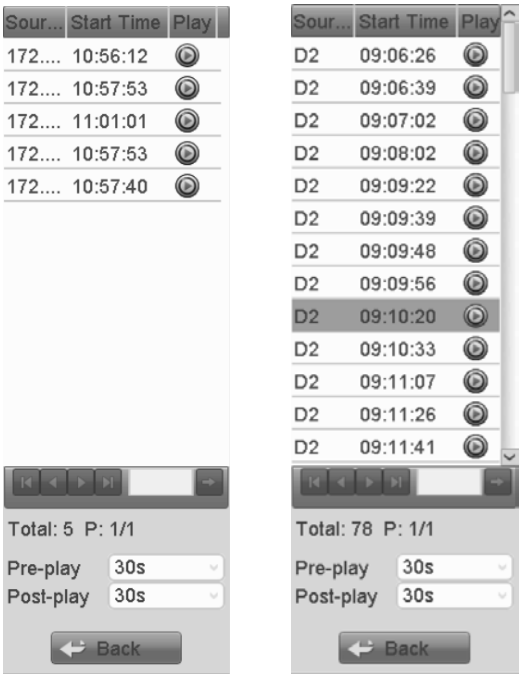


Figure 28: Motion search interface



4. Click the Search button to get the search result information. Refer to the right-side bar for the result.



5. Click button to play back the file.

   Note: Pre-play and post-play is configured.

   If the event is set to trigger recording for multiple channels, clicking displays the Synch Playback interface. You can select channels to play back synchronously.

   Click the Back button to return to the search interface.

6. Use the toolbar at the bottom of the Playback interface for controls.

Figure 29: Playback by event toolbar

Table 20: Playback by event icons

Icons	Description
/	Audio on/ Mute
/	Start/Stop clipping
	30s forward
	30s reverse
	Capture frame
	Lock video
	Add default tag
	Add customized tag
	Tag management
	Speed down
/	Pause reverse play/ Reverse play/ Single-frame reverse play
/	Pause play/ Play/ Single-frame play
/	Scaling up/down the time line
	Speed up
	Previous day
	Next day
	Full Screen
	Exit
	Stop
	Digital Zoom
Event	Video type
12 13 14	Process bar

Note: Use the mouse to click any point of the Playback progress, or drag the progress bar, to locate specific frames.

Playing back by tag

Video tags let you mark specific points in recording, like people or the location of a specific point in playback. Use video tags to search for record files and position time points.

To play back by tag:

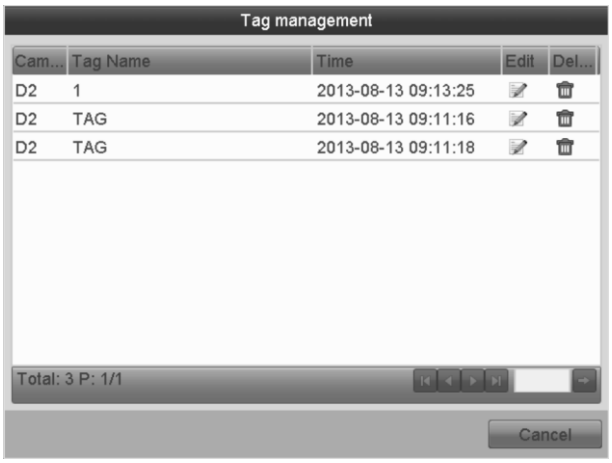
1. Enter the Playback interface (Menu > Playback).
2. Search and play back the record files.

3. Click to add default tag.
4. Click to add customized tag and input tag name.

Note: There is a maximum of 64 tags to a video file.

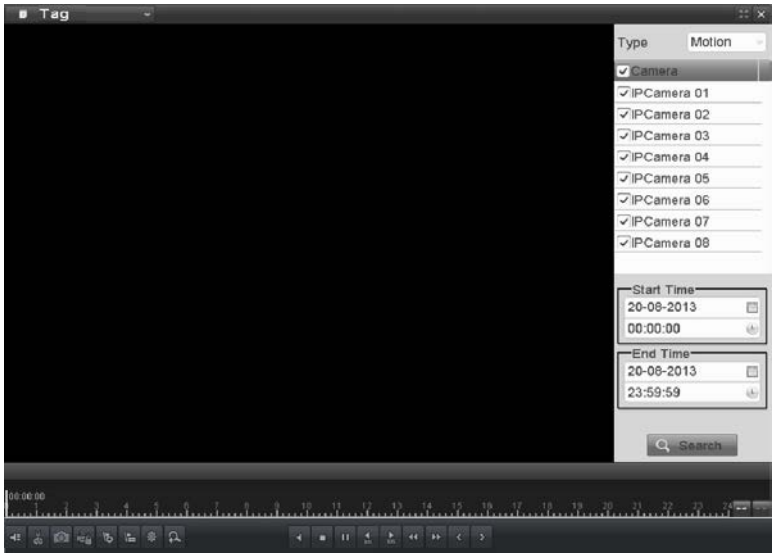
To use Tag management:

1. Click button to check, edit, and delete tags.



2. Select the tag from the drop-down list in the Playback interface.
3. Choose channels, edit start time and end time, and then click Search to enter the Search Result interface.

   Note: You can enter a keyword in the Keyword textbox to search the tag on your command.



4. Click ⊙ to play back the file.

   You can click the Back button to return to the search interface.

   Note: You can configure pre-play and post-play.

Figure 30: Playback by tag toolbar

Table 21: Playback by tag icons

Icons	Description
	Audio on/ Mute
	Start/Stop clipping
	30s forward
	30s reverse
	Add default tag (not supported)
	Capture frame
	Lock video
	Add customized tag (not supported)
	Tag management
	Speed down
	Pause reverse play/ Reverse play/ Single-frame reverse play
	Pause play/ Play/ Single-frame play
	Scaling up/down the time line
	Speed up
	Previous day
	Next day
	Full Screen
	Exit
	Stop
	Digital Zoom
Tag	Video type
	Process bar

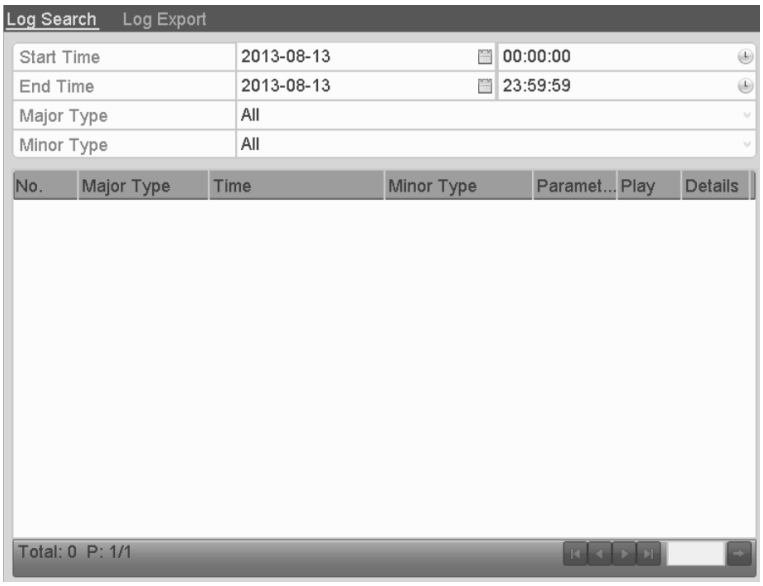
Note: Use the mouse to click any point of the Playback progress bar, or drag the progress bar to locate special frames.

Playing back by system logs

Play back record files associated with channels after searching the system logs.

To play back by system logs:

1. Enter the Log Information interface (Menu > Maintenance > Log Information).
2. Click the Log Search tab to enter Playback by System Logs.
3. Set search time and type and click Search button.



4. Choose a log with record file and click to enter the Playback interface.

   Note: If there is no record file at the time point of the log, the No result found dialog box displays.

5. Use the toolbar in the bottom part of the Playback interface to control playing process.

Playing back external file

Follow the steps to search for and play files in an external device.

To play back external files:

1. Enter the Tag Search interface (Menu > Playback).
2. On the top-left, select the file from the drop-down menu. Click the Refresh button to refresh the file list.
3. Select and click to play the file.

Auxiliary functions of playback

Playing back frame by frame

Play video files frame by frame to check the image details of the video when abnormal events occur.

To play back frame by frame using a mouse:

1. Go to the Playback interface.
2. When you choose playback of the record file, click until the speed changes to a single frame. One click on the Playback screen represents plays one frame.
3. When you choose reverse playback of the record file, click until the speed changes to a single frame. One click on the Playback screen represents reverse playback of one frame. You can also use the button in the toolbar.

To play back frame by frame using the front panel:

1. Hold and rotate the outer ring on the Jog Shuttle counter clockwise (for 16 and 32-Channel only), or click to set the speed to Single frame. One click on button, one click on the playback screen, or Enter button on the front panel represents playback or reverse playback of one frame.

Digital zoom

To use digital zoom:

1. Click on the playback control bar to enter the Digital Zoom interface.
2. Using the mouse, draw a rectangle. The image is enlarged up to 16 times.

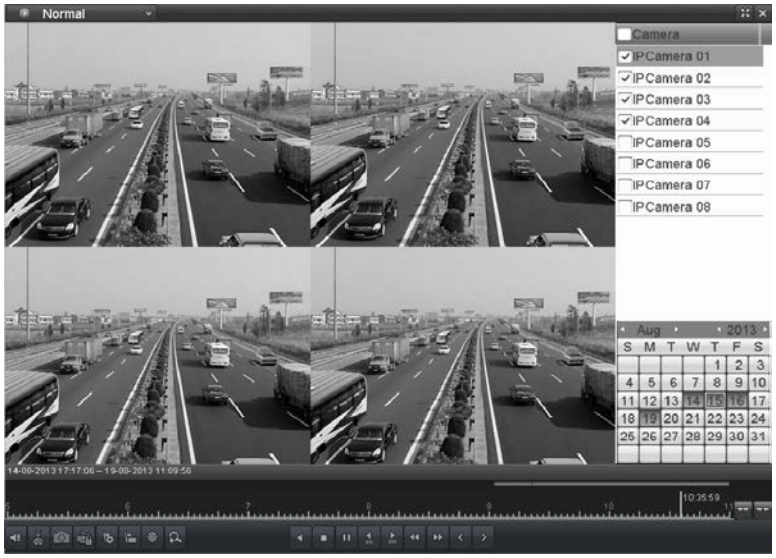
3. Right-click the image to exit the Digital Zoom interface.

Reverse playback of multi-channel

Simultaneous playback is supported for multi-channel. Up to 16-channel (with 1280x720 resolution) simultaneous reverse playback is supported; up to 4-channel (with 1920x1080 resolution) simultaneous reverse playback is supported and up to 1-channel (with 2560x1920 resolution) reverse playback is supported.

To reverse playback of multiple channels:

1. Enter the Playback interface (Menu > Playback).
2. Select more than one check box to select multiple channels, and then click to select a date on the calendar.



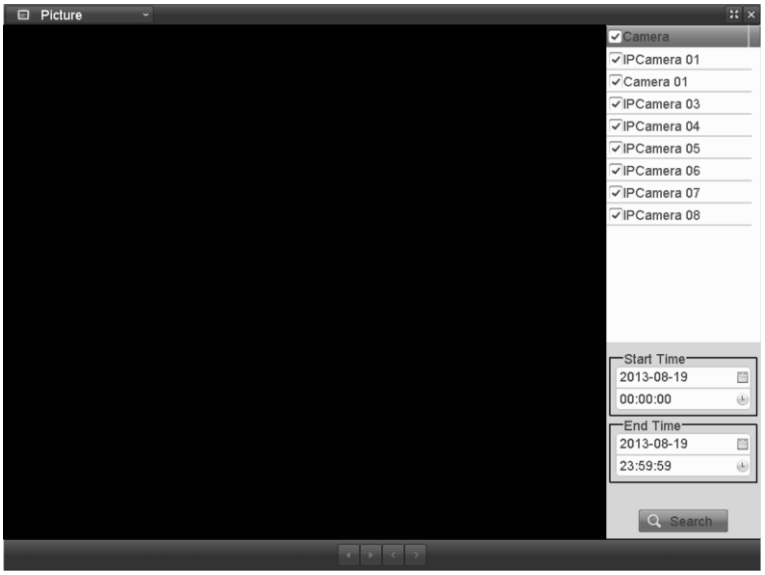
3. Click to play the files in reverse. -

Picture playback

Search and view captured pictures stored in HDD.

To use picture playback:

1. Enter the Playback interface (Menu > Playback).
2. Select the picture in the drop-down list on the top-left side.



3. Choose channels, edit start time and end time, and then click Search.
4. Choose the file you want to view and click .

   Click the Back button to return to the search interface.

5. Use the toolbar in the bottom part of Playback interface to control play.

Figure 31: Picture playback toolbar

Table 22: Picture playback toolbar icons

Button	Description
	Play reverse
	Play
	Previous picture
	Next picture

Chapter 7
Backup

Backing up recorded files

Backing up by normal video search

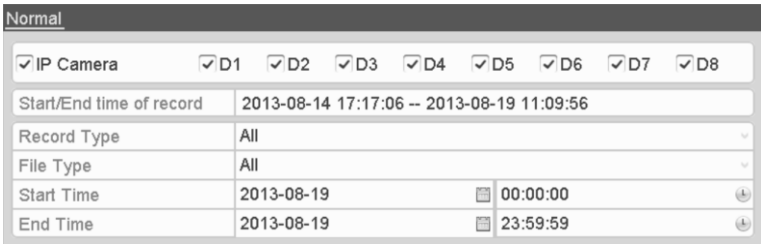
You can back up record files to various devices, such as USB devices (USB flash drives, USB HDDs, USB writer), SATA writer, and e-SATA HDD.

To backup using USB flash drives and USB HDDs:

1. Enter Export interface.

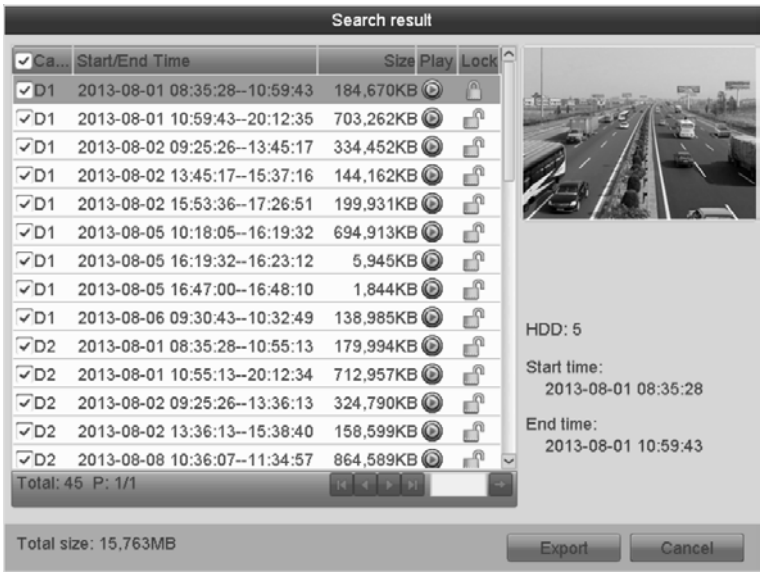
   Menu > Export > Normal

2. Set search condition and click Search to enter the search result interface.



3. Choose the record file in the Export interface, and then click to check it.

   Note: The size of the selected files displays in the lower-left corner of the window.

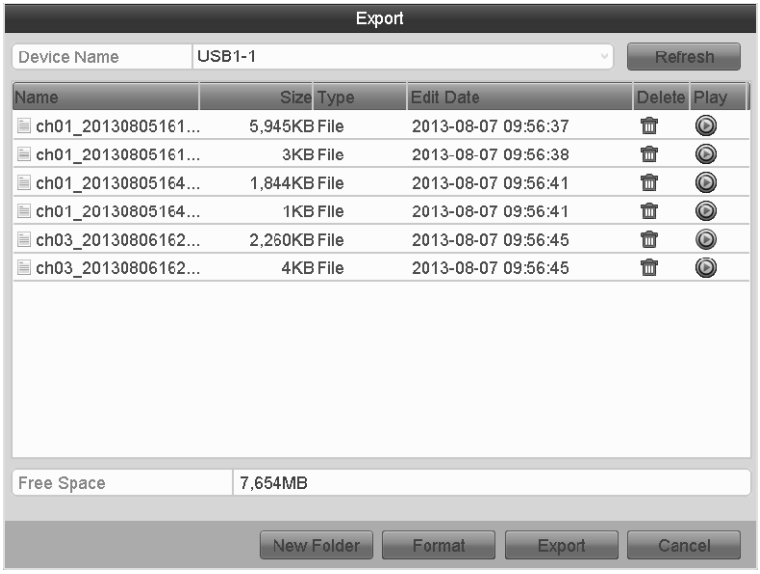


4. Click Export and start backup.

   Note: If the inserted USB device is not recognized, do the following.

   - Click the Refresh button.
   - Reconnect device.
   - Check the vendor's compatibility.

   You can format USB flash drives or USB HDDs via the device.



5. Stay in the Exporting interface until all record files are exported. When complete, the dialog displays "Export finished."

   Note: The file format is MP4.

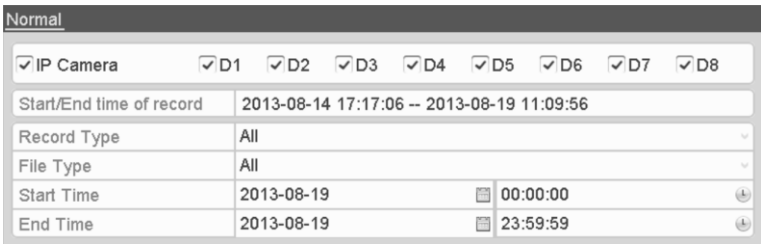
6. Check the results by selecting the record file in Export interface, and then click .

To backup using USB and SATA writers:

1. Enter Export interface.

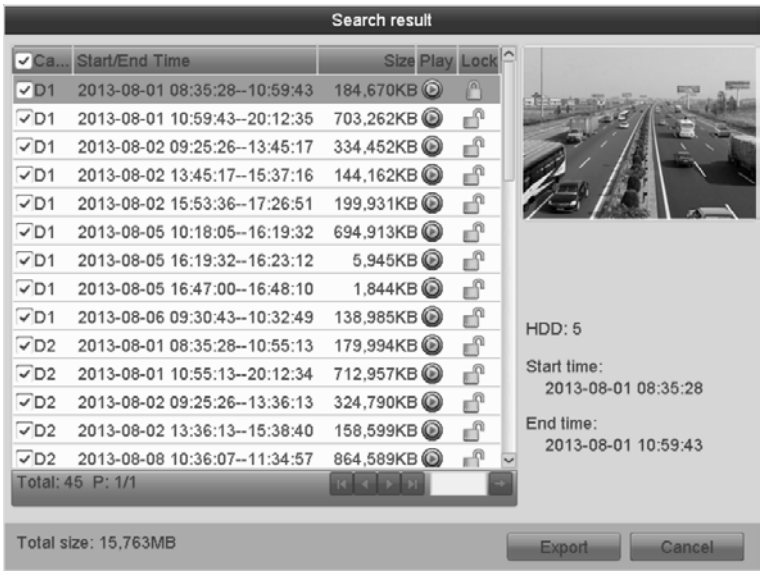
   Menu > Export > Normal

2. Set search condition and click the Search button.



3. Choose the recorded file in the Export interface, and then click .

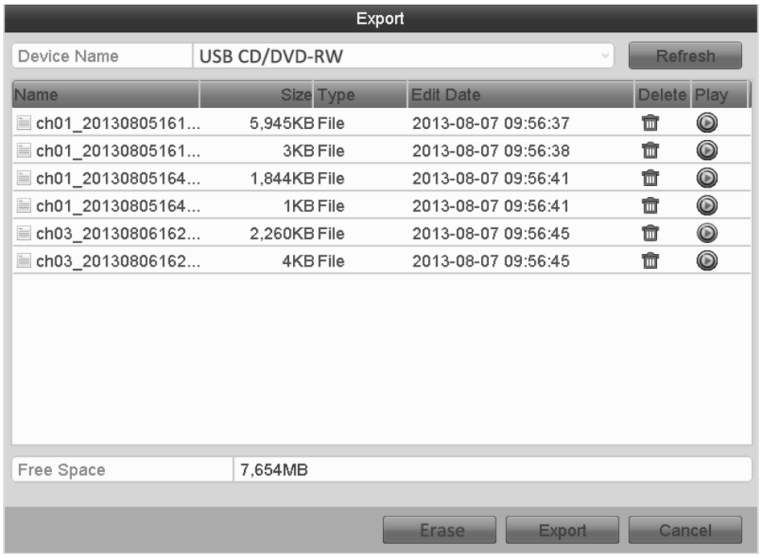
   Note: The size of the selected file is displayed in the lower-left corner.



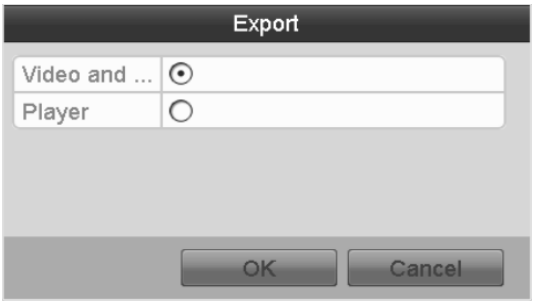
4. Click Export and start the backup.

Note: If the inserted USB writer or SATA writer is not recognized, do the following.

- Click the Refresh button.
- Reconnect device.
- Check the vendor's compatibility.



5. Select the file type by clicking the corresponding option icon, and then click OK to start backup.



6. Stay in the Exporting interface until all record files are exported. When complete, the Export dialog displays "Export finished."

7. Check the backup results by choosing the record file in the Export interface, and then click to check it.

To backup using eSATA HDDs

1. Browse to Advanced Settings.

   Menu > Record > Advanced

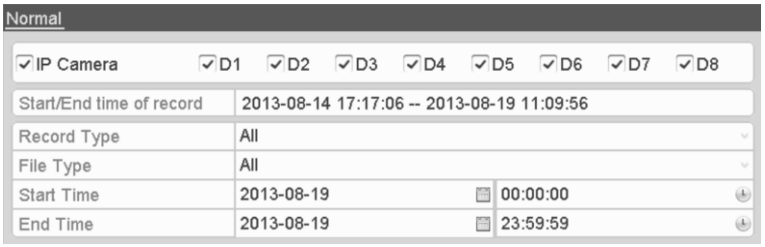
2. Select eSATA and set the usage to Export.
3. Click Yes when prompted.

   Note: The usages of eSATA HDD contain Record/Capture and Export. Changes in usage will take effect after your reboot the device.

4. Access the Export interface.

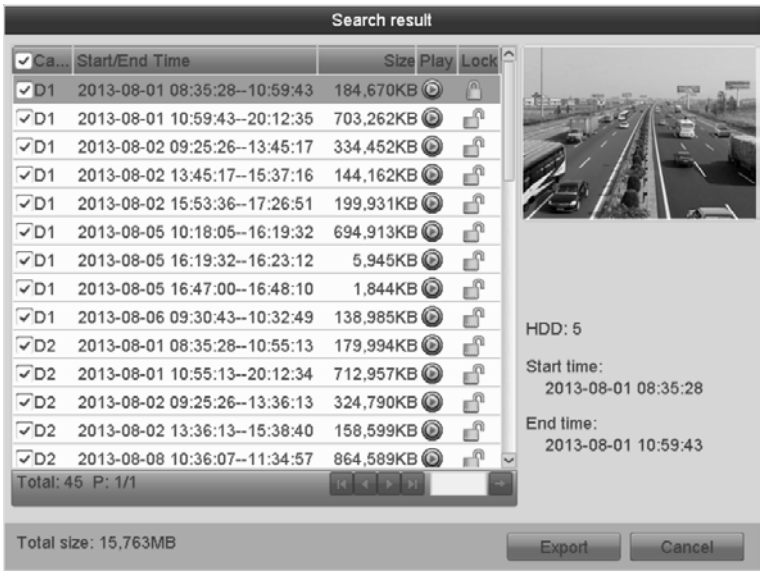
   Menu > Export > Normal

5. Set the search condition, and then click Search button.



6. In the Export interface, click to select and view the record file.

   Note: The lower-left corner displays the size of the selected file.



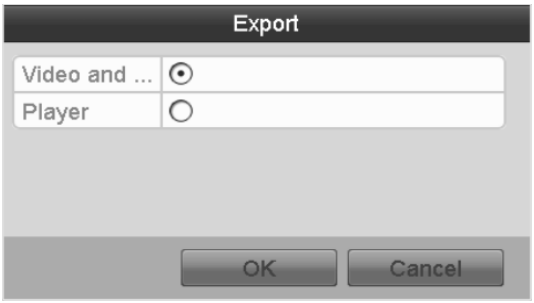
7. Click Export to start the backup.

Note: Format the eSATA HDD when using it for the first time. If the HDD is not recognized, do the following.

a. Click the Refresh button.
b. Reconnect the device.
c. Check the vendor's compatibility.

You can also format the eSATA HDD via the device.

8. Select the file type by clicking its corresponding option icon, and then click OK to start the backup.



9. Stay in the Exporting interface until all record files are exported. When complete, the dialog box displays "Export finished."

10. Check the results by choosing the record file in Export interface, and then clicking to check it.

Backing up by event search

Back up event-related record files using USB devices (USB flash drives, USB HDDs, USB writer), SATA writer or eSATA HDD. Quick Backup and Normal Backup are supported.

To backup by event search:

1. Enter the Export interface.

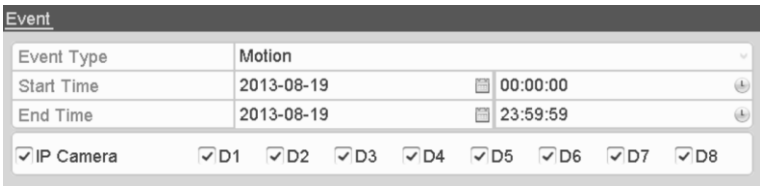
   Menu > Export > Event

2. Choose Motion from the Event Type list.

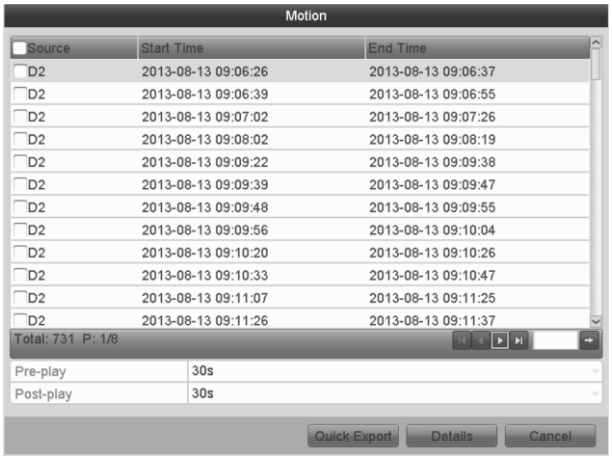
   Note: Event types contain Alarm Input and Motion. The following example shows backing up by motion.

3. Select the alarm input number and time.

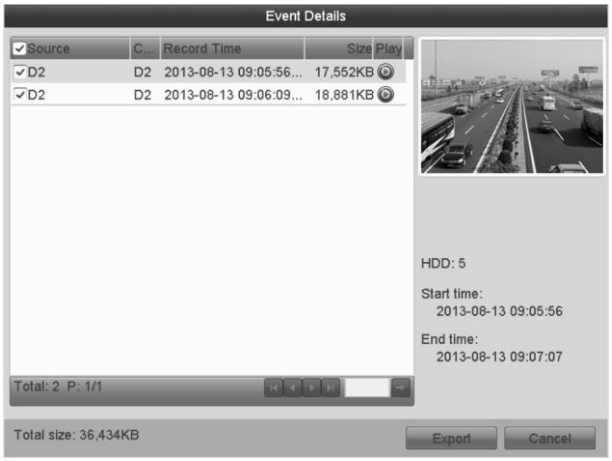
4. Click Search to enter the Search Result interface.



5. Click Quick Export to export the record files of all channels triggered by the selected alarm input.



6. Click Details to view detailed information of the record file, such as start time, end time, file size, etc.



7. Click Export to start the backup.

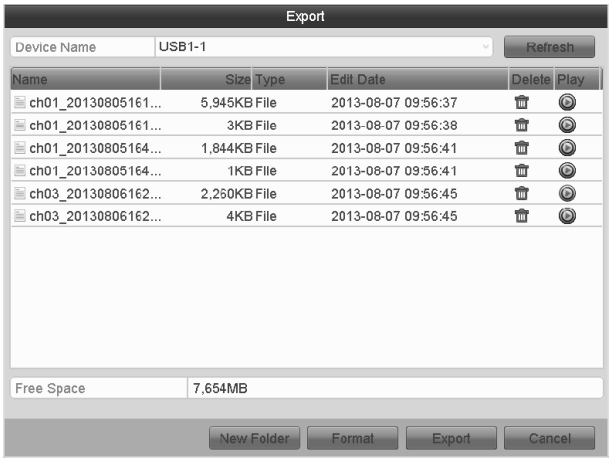
   Note: If the inserted USB device is not recognized:

   a. Click Refresh.

   b. Reconnect the device.

   c. Check the vendor's compatibility.

   You can also format USB flash drives or USB HDDs via the device.



8. Stay in the Exporting interface until all record files are exported. When complete, the dialog displays "Export finished."

9. Choose the record file in Export interface and click button to check it.

Backing up video clips

You can also select video clips to export directly during Playback using USB devices (USB flash drives, USB HDDs, USB writer), SATA writer, or eSATA HDD.

To backup video clips:

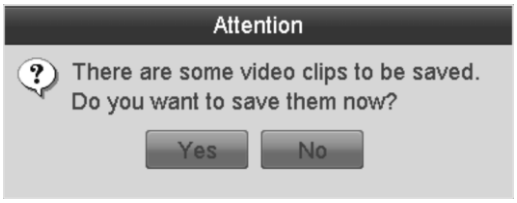
1. Enter the Playback interface.
2. During playback, use and in the playback toolbar to start or stop clipping record files.
3. Use the Quit Playback interface when finishing clipping. You are prompted to save the clips.

   Note: You can select a maximum of thirty clips for each channel.

4. Click Yes to save video clips and enter Export interface.

   – or –

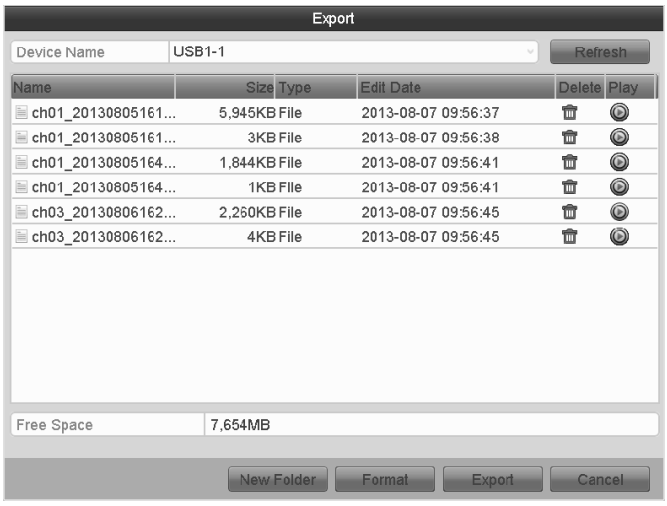
   Click No to quit and do not save video clips.



   Note: If the inserted USB device is not recognized, do the following.

   a. Click Refresh.
   b. Reconnect the device.
   c. Check the vendor's compatibility.

   You can also format USB flash drive or USB HDDs via the device.



5. Stay in the Exporting interface until all record files are exported. When complete, the dialog displays “Export finished.”

6. Choose the record file in Export interface and click button to check it.

Backing up pictures

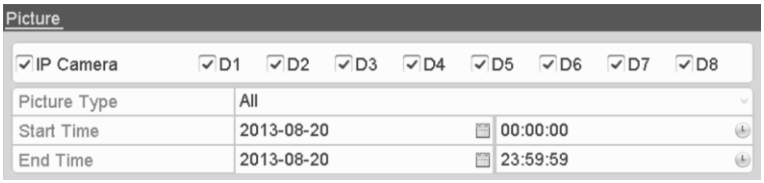
Back up pictures using USB devices (USB flash drives, USB HDDs, USB writer), SATA writer, or eSATA HDD.

To backup pictures:

1. Enter the Export interface.

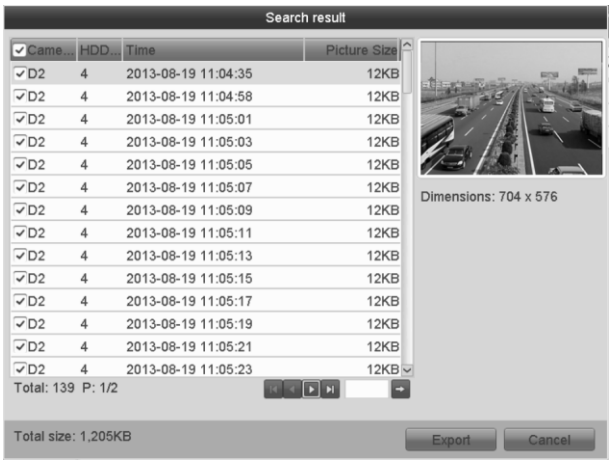
   Menu > Export > Picture

2. Select the channels, image type, start time and end time, and then click Search to enter the Search Result interface.

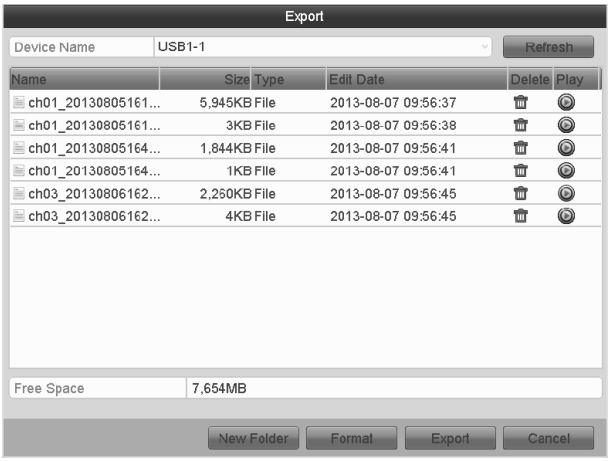


3. Click the check box for each picture you want to back up, and then click Export.

   Note: The following example shows backing up to a USB flash drive.



4. Click Export to start the backup.



5. Stay in the Exporting interface until all record files are exported. When complete, the dialog displays “Export finished.”

6. Click **OK**.

Managing backup devices

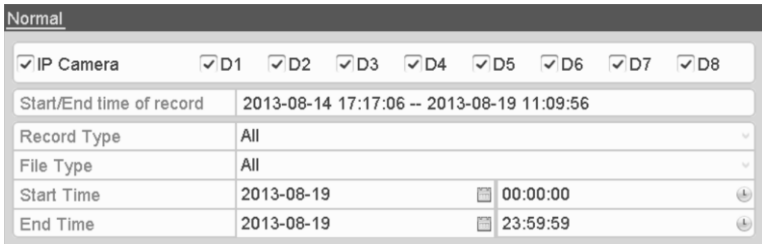
To manage USB flash drives, USB HDDs, and eSATA HDDs.

1. Enter the Search Result interface for the record files.

   Menu > Export > Normal

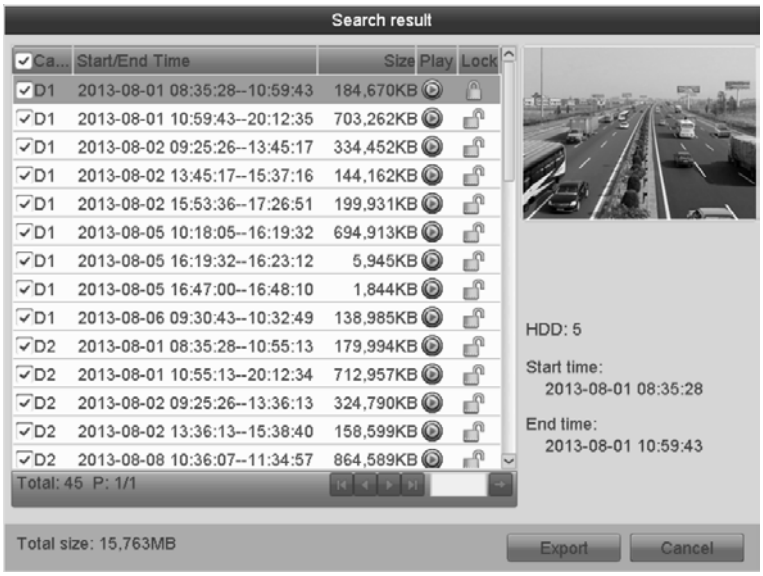
2. Set the search condition, and then click Search to enter Search Result interface.

   Note: You must select at least one camera.



3. Select the record files you want to back up, and then click Export to enter the Export interface.

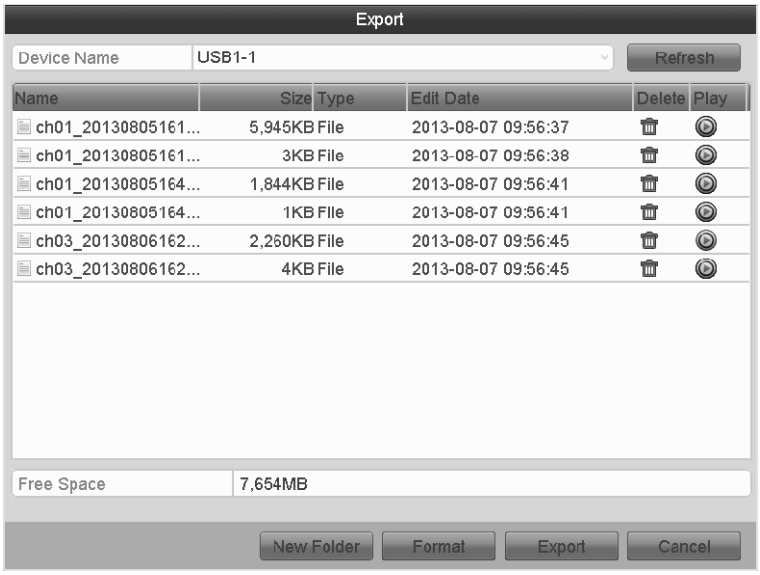
   Note: You must select at least one record.



4. Click New Folder to create a new folder in the backup device.
5. Select a record file or folder in the backup device, or click the to delete it.
6. Select a record file in the backup device, and then click to play it.
7. Click Format to format the backup device.

   Note: If the inserted USB device is not recognized, do the following.

a. Click Refresh.
b. Reconnect the device.
c. Check the vendor's compatibility.



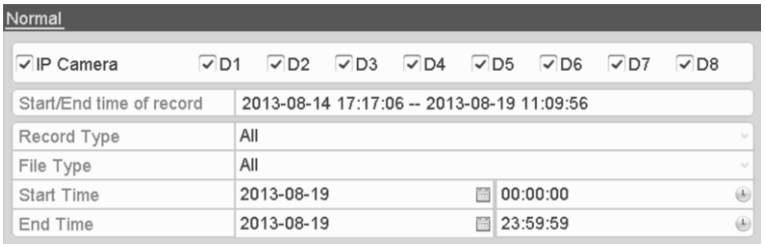
To manage USB writers:

1. Enter Search Result interface of record files.

   Menu > Export > Normal

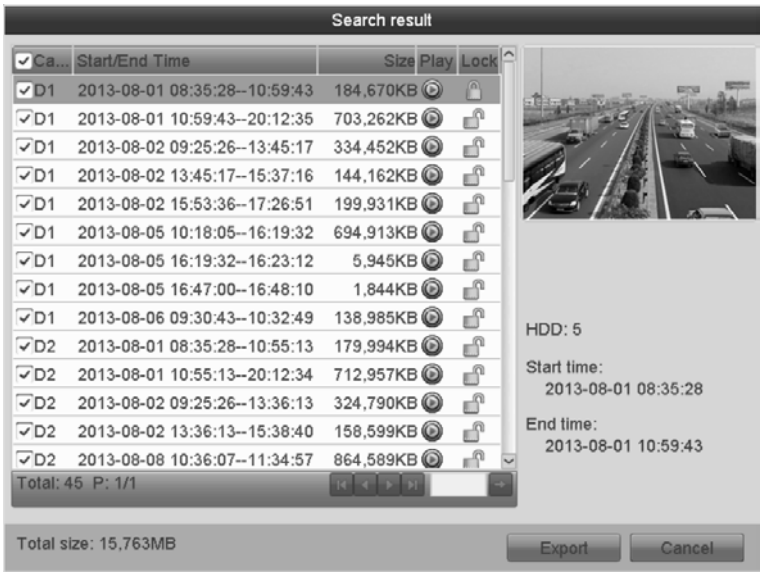
2. Set search condition, and then click Search to enter Search Result interface.

   Note: You must select at least one channel.



3. Click Export to enter the Export interface.

   Note: You must select at least one record.


Search result
Ca...
Start/End Time
Size
Play
Lock
D1 2013-08-01 08:35:28--10:59:43 184,670KB
D1 2013-08-01 10:59:43--20:12:35 703,262KB
D1 2013-08-02 09:25:26--13:45:17 334,452KB
D1 2013-08-02 13:45:17--15:37:16 144,162KB
D1 2013-08-02 15:53:36--17:26:51 199,931KB
D1 2013-08-05 10:18:05--16:19:32 694,913KB
D1 2013-08-05 16:19:32--16:23:12 5,945KB
D1 2013-08-05 16:47:00--16:48:10 1,844KB
D1 2013-08-06 09:30:43--10:32:49 138,985KB
D2 2013-08-01 08:35:28--10:55:13 179,994KB
D2 2013-08-01 10:55:13--20:12:34 712,957KB
D2 2013-08-02 09:25:26--13:36:13 324,790KB
D2 2013-08-02 13:36:13--15:38:40 158,599KB
D2 2013-08-08 10:36:07--11:34:57 864,589KB
Total: 45 P: 1/1
HDD: 5
Start time:
2013-08-01 08:35:28
End time:
2013-08-01 10:59:43
Total size: 15,763MB
Export
Cancel

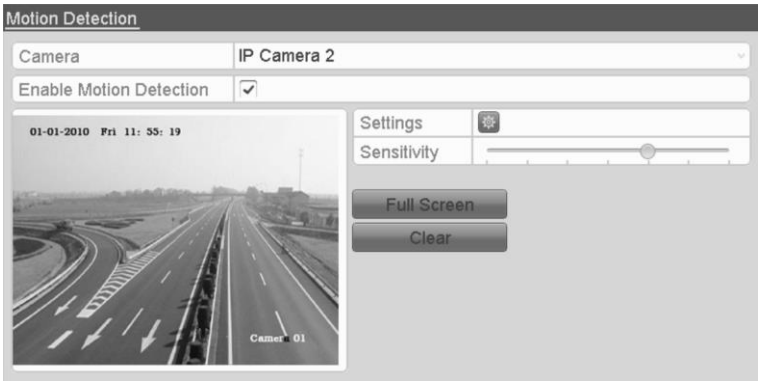
Chapter 8
Alarm Settings

Setting motion detection alarm

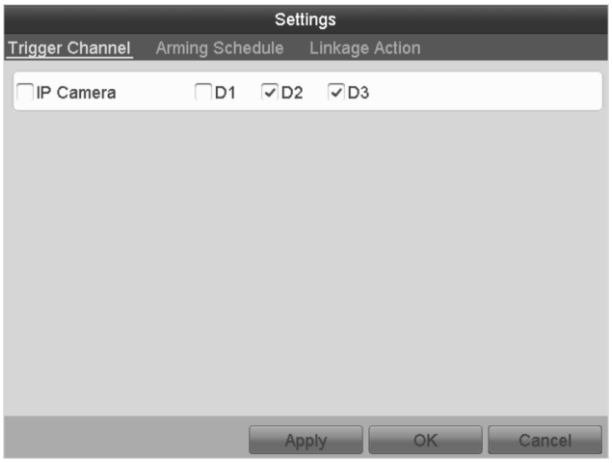
To set a motion detection alarm:

1. Enter the Motion Detection interface for camera management, and then choose a camera you want to set up motion detection.

   Menu > Camera > Motion

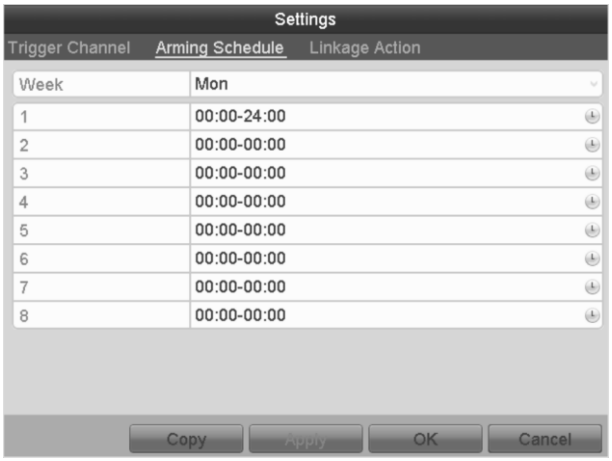


2. Set up the detection area and sensitivity by selecting Enable Motion Detection.
3. Using the mouse, draw a detection area, and then drag the sensitivity bar to set sensitivity.
4. Click and set alarm response actions.
5. The Trigger Channel tab displays, select one or more channels that will record and capture, or become full-screen monitoring when the motion alarm is triggered.
6. Click Apply to save the settings.



7. Set up the arming schedule of the channel by select the Arming Schedule tab.
8. Choose one day of the week and up to eight times for each day.
9. Click Apply to save the settings

   Note: Do not repeat or overlap times.



10. Click the Linkage Action tab to set up the alarm response actions of motion alarm.
11. If you want to set motion detection for another channel, repeat the steps above, or simply click Copy in the Motion Detection interface to copy the settings.

Setting sensor alarms

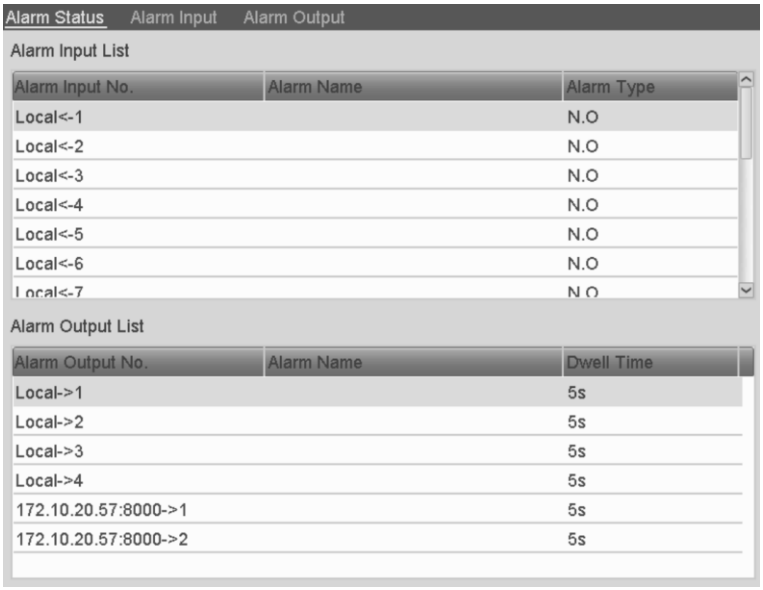
Set the handling action of an external sensor alarm.

To set sensor alarms:

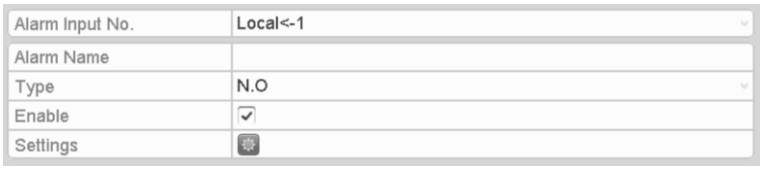
1. Enter the Alarm Settings of System Configuration and select an alarm input.

   Menu > Configuration > Alarm

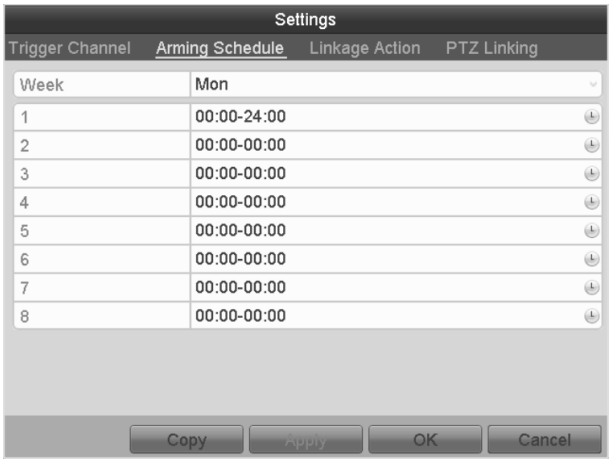
2. Select the Alarm Input tab to enter the Alarm Input Settings interface.



3. Check the Enable check box, and then click Settings to set its alarm response actions.



4. Click the Trigger Channel tab, and then select one or more channels that will record and capture or become full-screen monitoring when an external alarm is detected.
5. Click Apply to save the settings.
6. Click the Arming Schedule tab to set the arming schedule.



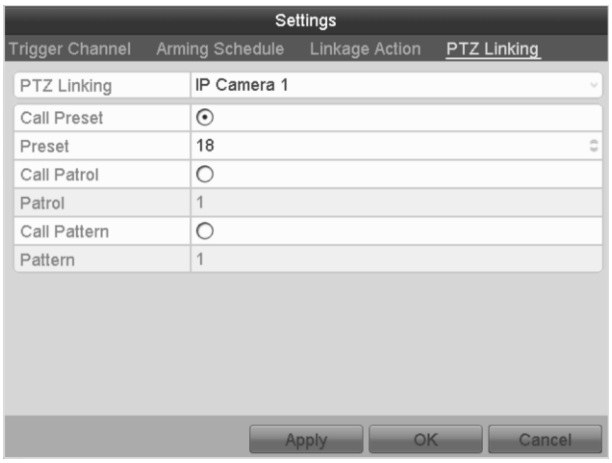
7. Choose a day of a week and up to eight times for each day, and then click Apply.

   Note: Do not repeat or overlap times.

8. Repeat the above steps to set up arming schedule for other days. You can also click Copy to copy an arming schedule to other days.
9. Select the Linkage Action tab to set up alarm response actions of alarm input.
10. If necessary, select the PTZ Linking tab and set PTZ linking parameters, and then click OK.

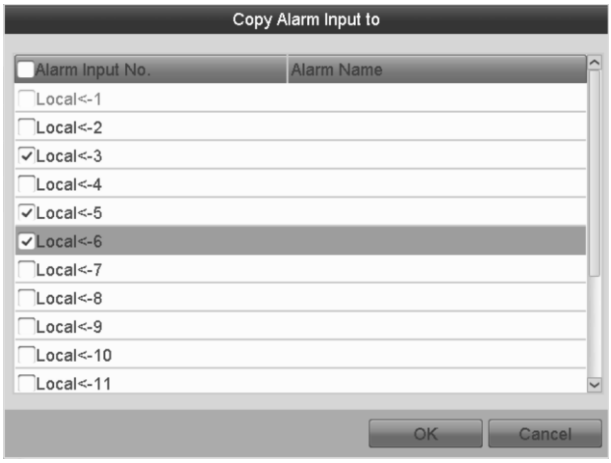
    Note: Ensure the PTZ or speed dome supports PTZ linkage.

    One alarm input can trigger the presets, patrol, or pattern of one or more channels; however, presets, patrols and patterns are exclusive.



11. If you want to set the handling action of another alarm input, repeat the above steps.

    You can also click Copy on the Alarm Input Setup interface, and then check the check box for the alarm inputs and copy the settings to them.



Detecting video loss alarm

Detects the video loss of a channel and take alarm response action(s).

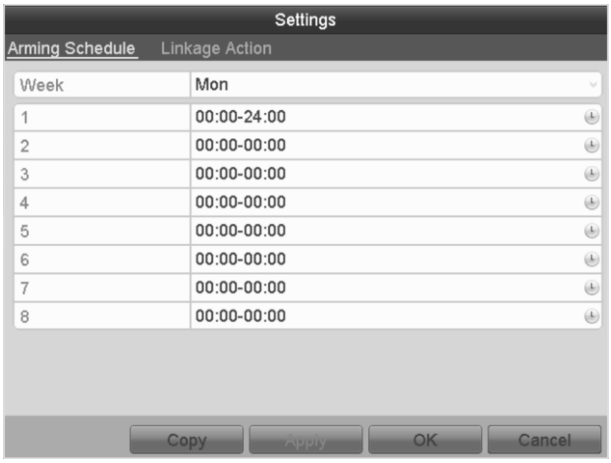
To set detecting for video loss alarms:

1. Enter the Video Loss interface of Camera Management and select a channel you want to detect.

   Menu > Camera > Video Loss

2. Check the Enable Video Loss Alarm check box, and then click to set up the handling action for video loss.
3. Click the Arming Schedule tab to set the channel's arming schedule.
4. Choose a day of a week and up to eight times for each day.
5. Click Apply to save the settings.

   Note: Do not repeat or overlap times.



6. Click the Linkage Action tab to set up alarm response action of video loss.
7. Click OK to complete the video loss settings for the channel.

Detecting video tampering alarm

Alarms trigger when the lens is covered and takes alarm response actions.

To detect video tampering:

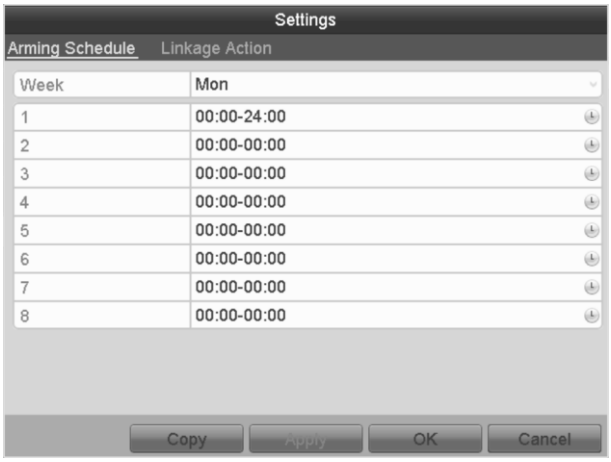
1. Enter the Video Tampering interface, and then select a channel.

   Menu > Camera > Video Tampering Detection

2. Check the **Enable Video Tampering** check box.
3. Drag the sensitivity bar to choose a proper sensitivity level.
4. Using the mouse, draw an area to detect video tampering.
5. Click to set the handling action for video tampering.

6. Click the Arming Schedule tab to set the arming schedule for handling actions.
7. Choose a day of a week and up to eight periods for each day.
8. Click Apply to save the settings.

   Note: Do not repeat or overlap times.



9. Click the Linkage Action tab to set up alarm response actions for the video tampering alarm.
10. Click OK to complete the video tampering settings for the channel.

Handling alarm exceptions

The exception settings refer to handling actions of various exceptions, such as:

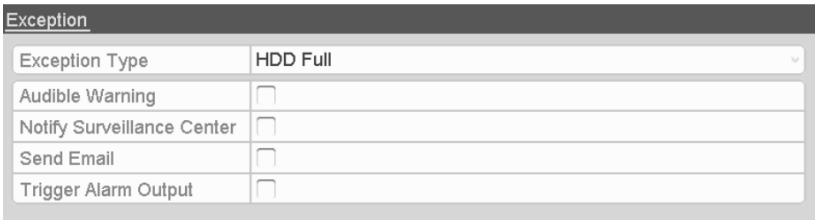
- HDD Full: The HDD is full.
- HDD Error: Writing HDD error or unformatted HDD.
- Network Disconnected: Disconnected network cable.
- IP Conflicted: Duplicated IP address.
- Illegal Login: Incorrect user ID or password.
- Record/Capture Exception: No space for saving recorded files or captured images.
- Array Exception: Abnormal virtual disks exist under array.

  Note: Array Exception is only supported by the 64-Channel NVR.

To set alarm exceptions:

1. Enter the Exception interface of System Configuration and handle various exceptions.

   Menu > Configuration > Exceptions



Setting alarm response actions

Alarm response actions activate when an alarm or exception occurs, including Full Screen Monitoring, Audible Warning (buzzer), Notify Surveillance Center, Upload Picture to FTP, Trigger Alarm Output, and Send Email.

Full screen monitoring

When an alarm is triggered, the local monitor (VGA, HDMI, or BNC monitor) displays in full screen

If alarms are triggered simultaneously in several channels, their full-screen images are switched at a ten second interval (default dwell time). You can set a different dwell time by going to Menu > Configuration > Live View > General > Full Screen Monitoring Dwell Time.

Auto-switch terminates once the alarm stops. You are then taken back to the Live View interface.

Note: You must select the Trigger Channel settings for the channels you want to make full screen.

Audible warning

This triggers an audible beep when an alarm is detected.

Notify surveillance center

This sends an exception or alarm signal to the remote alarm host when an event occurs. The alarm host refers to the PC installed with Remote Client.

Note: The alarm signal transmits automatically at detection when a remote alarm host is configured.

Email linkage

Send an email with alarm information to a user or users when an alarm is detected.

Trigger alarm output

Trigger an alarm output when an alarm is triggered.

1. Enter the Alarm Output interface.

   Menu > Configuration > Alarm > Alarm Output

2. Select an alarm output and set alarm name and dwell time. Click Schedule button to set the arming schedule of alarm output.

   Note: When you select Manually Clear from the Dwell Time list, you can only clear it by going to Menu > Manual > Alarm.

3. Choose a day of a week and up to eight times for each day.

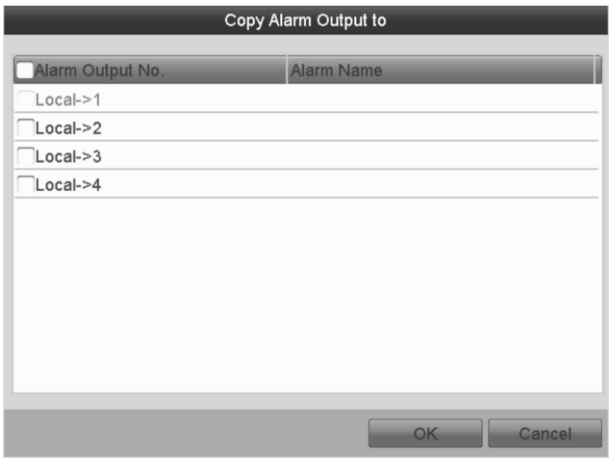
   Note: Do not repeat or overlap times.

4. Repeat the above steps to set an arming schedule for the other days of a week.

   You can also use the Copy button to copy an arming schedule to other days.

5. Click OK to complete the video tampering settings of the alarm output.

   You can also copy the above settings to another channel.



Triggering or clearing alarm output manually

Sensor alarm is triggered or cleared manually. When you select Manually Clear from the Dwell Time list, you can only clear the alarm by clicking Clear in the following interface.

To trigger or clear alarms:

1. Select the alarm output you want to trigger or clear.

   Menu > Manual > Alarm

2. Click Trigger/Clear when you want to trigger or clear an alarm output.
3. Click Trigger All when you want to trigger all alarm outputs.
4. Click Clear All when you want to clear all alarm output.

Alarm Output No.
Alarm Name
Trigger
Local->1
Yes
Local->2
No
Local->3
Yes
Local->4
No
Clear
Trigger All
Clear All
Back

Chapter 9
Network Settings

Configuring general settings

You must properly configure network settings before you can operate an NVR over the network.

To configure general settings:

1. Enter the Network Settings interface (Menu > Configuration > Network).
2. Click the General tab.

Figure 32: Network Setting Interface – 64-Channel NVR

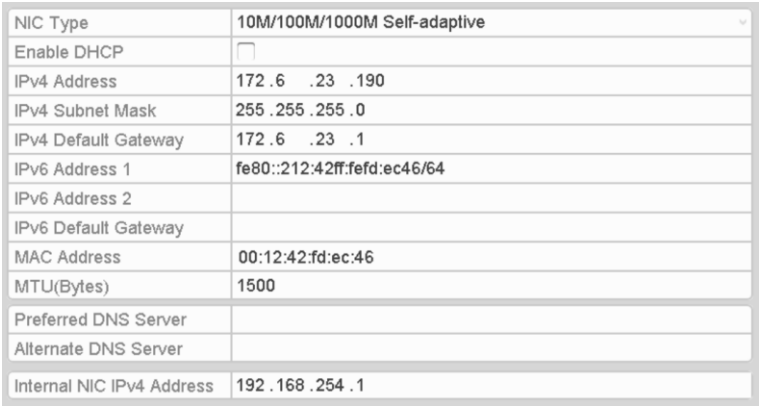
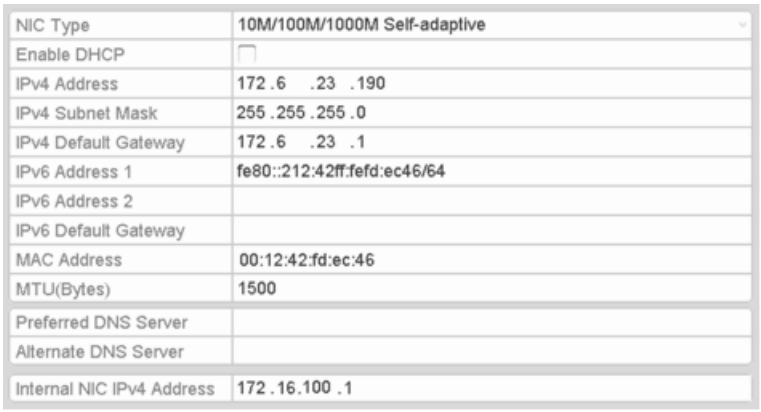


Figure 33: Network Setting Interface – 16 and 32-Channel



3. In the General Settings interface, configure the following settings: Working Mode, NIC Type, IPv4 Address, IPv4 Gateway, MTU and DNS Server.
4. If the DHCP server is available, you can click the DHCP check box to automatically obtain an IP address and other network settings from that server.

   Note: For the 16 and 32-Channel NVRs, you must configure the internal NIC address so that IP addresses are assigned to the cameras connected to the PoE interfaces.

The valid value range of MTU is 500 - 9676.

5. Click Apply to save the settings.

Working mode

There are two 10M/100M/1000M NIC cards provided by the 9600NI-ST/RT/XT series device. The cards allow the device to work in the Multi-address, Load Balance, and Net-fault Tolerance modes.

Multi-address mode: You can configure the parameters of the two NIC cards independently. Select LAN1 or LAN2 in the NIC type field for parameter settings.

You can select one NIC card as the default route. The system is connecting with the extranet and the data is forwarded through the default route.

Net-fault Tolerance mode: The two NIC cards use the same IP address. Select the Main NIC to LAN1 or LAN2. In the event that one of the NIC cards fails, the device automatically enables the other standby NIC card to ensure the system continues running normally.

Load Balance mode: Using the same IP address, the two NIC cards share the load of the total bandwidth. This allows the system to provide two Gigabit of network capacity.

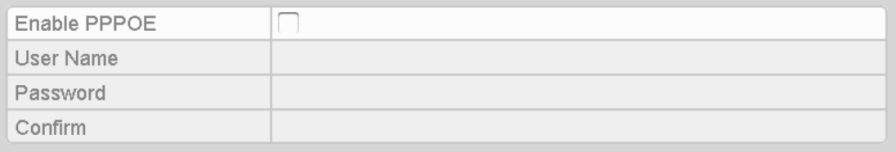
Configuring advanced settings

Configuring PPPoE settings

Your NVR allows access by Point-to-Point Protocol over Ethernet (PPPoE).

To configure PPPoE settings:

1. Enter the Network Settings interface (Menu > Configuration > Network).
2. Click the **PPPoE** tab to enter the PPPoE settings interface.



3. Click the Enable PPPoE check box to enable this feature.
4. Enter the User Name, Password, and Confirm Password for PPPoE access.

   Note: The User Name and Password should is assigned by your ISP.
5. Click Apply to save and exit the interface.

   The system prompts you to reboot the device to enable the new settings. After the reboot, the PPPoE dial-up is automatically connected. You can go to Menu > Maintenance > System Info > Network interface to view the status of PPPoE connection.

Configuring DDNS

If your NVR is set to use PPPoE as its default network connection, set the Dynamic DNS (DDNS) for network access. You must register with your ISP before configuring the system to use DDNS.

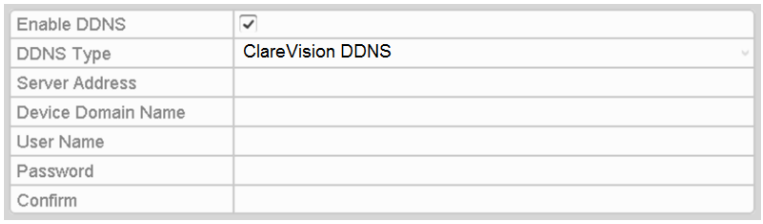
To configure DDNS:

1. Enter the Network Settings interface (Menu > Configuration > Network).
2. Click the DDNS tab to enter the DDNS Settings interface.
3. Click the DDNS check box to enable it.
4. Choose one of the four DDNS types: ClareVision DDNS, IPServer, PeanutHull, and NO-IP.

ClareVision DDNS:

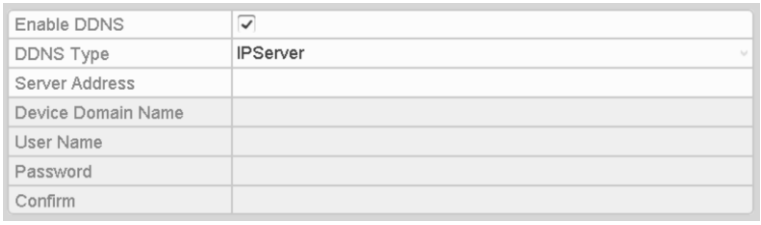
1. Enter the Server Address for the ClareVision DDNS (i.e., myclarevision.com).

2. In the NVR Doman Name field, enter the domain obtained from the ClareVision DDNS website.
3. Enter the User Name and Password registered in the ClareVision website.



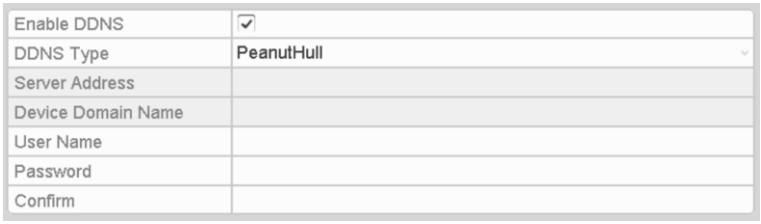
IPServer:

- Enter Server Address for IPServer.



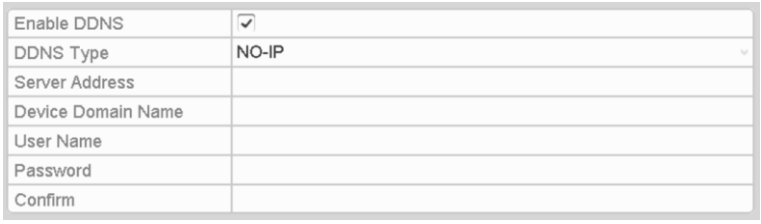
PeanutHull:

- Enter the User Name and Password obtained from the PeanutHull website.



NO-IP:

1. Enter the account information in the corresponding fields.
2. Enter the Server Address for NO-IP.
3. In the NVR Domain Name field, enter the domain obtained from the NO-IP website (www.no-ip.com).
4. Enter the User Name and Password registered in the NO-IP website.

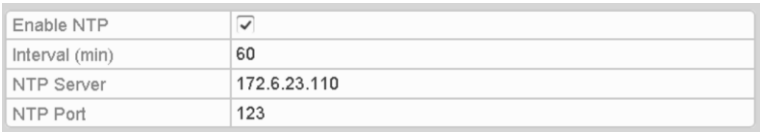


Configuring NTP server

Configure a Network Time Protocol (NTP) server on your NVR to ensure the accuracy of the system date and time.

To configure an NTP server:

1. Enter the Network Settings interface (Menu > Configuration > Network).
2. Click the NTP tab to enter the NTP Settings interface.



3. Check the Enable NTP check box to enable it.
4. Configure the following NTP settings.

   Interval: Time interval between the two synchronizing actions with NTP server. The unit is minute.

   NTP Server: IP address of NTP server.

   NTP Port: Port of NTP server.
5. Click **Apply** to save and exit the interface.

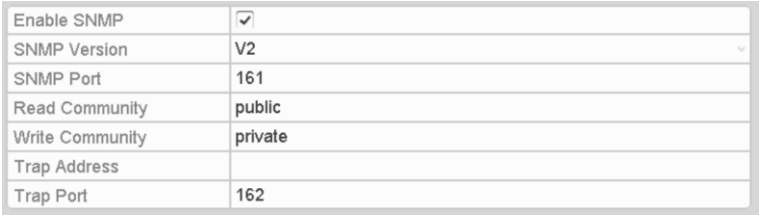
   Note: The time synchronization interval is set from1 to 10080 minutes. The default value is 60 minutes. If the NVR is connected to a public network, you should use an NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the NVR is setup in a customized network, use NTP software to establish an NTP server used for time synchronization.

Configuring SNMP

You can use SNMP protocol to get device status and parameters-related information.

To configure SNMP:

1. Enter the Network Settings interface. Menu > Configuration > Network.
2. Click the SNMP tab to enter the SNMP Settings interface.



3. Check the SNMP check box to enable it.
4. Configure the following SNMP settings.

   Trap Address: IP Address of SNMP host.

   Trap Port**:** Port of SNMP host.
5. Click Apply to save and exit the interface.

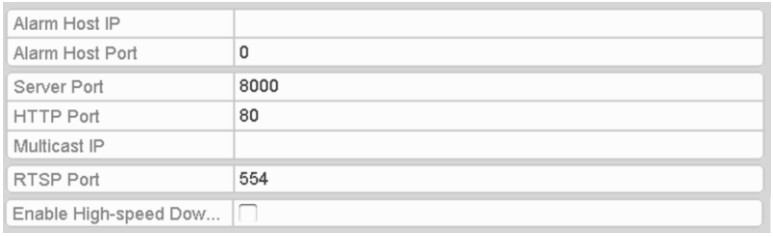
Note: Before setting the SNMP, download the SNMP software and configure it to receive the device information via SNMP port. By setting the trap address, the NVR can send the alarm event and exception message to the surveillance center.

Configuring a remote alarm host

With a remote alarm host configured, the NVR will send the alarm event or exception message to the host when an alarm is triggered. The remote alarm host must have the Network Video Surveillance software installed.

Steps:

1. Enter the Network Settings interface (Menu > Configuration > Network).
2. Click the More Settings tab to enter the More Settings interface.



3. Enter **Alarm Host IP** and **Alarm Host Port** in the text fields.

   The Alarm Host IP refers to the IP address of the remote PC on which the Network Video Surveillance Software is installed. The alarm host port must match the alarm monitoring port configured in the software.

4. Click Apply to save and exit the interface.

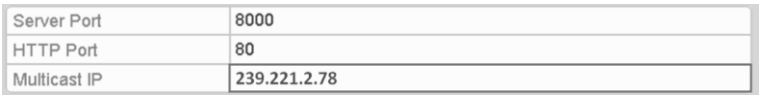
Configuring multicast

You can configure multicast to realize live view for more than 128 cameras through the network for 64-Channel NVRs. You can connect over 64 cameras using the multicast function for the 4-Channel NVR, 8-Channel NVR, and 32-Channel NVR.

A multicast address spans the Class-D IP range from 224.0.0.0 to 239.255.255.255. We recommend that you use IP addresses ranging from 239.252.0.0 to 239.255.255.255.

To configure multicast:

1. Enter the Network Settings interface (Menu > Configuration > Network).
2. Click the More Settings tab.
3. Set multicast IP, as shown below. When adding a device to the Network Video Surveillance Software, the multicast address must match the NVR's multicast IP.



4. Click Apply to save and exit the interface.

Note: The multicast function is supported by the network switch to which the NVR connects.

Configuring RTSP

The RTSP (Real Time Streaming Protocol) is a network control protocol used in communication systems to control streaming media servers.

To configure RTSP:

1. Enter the Network Settings menu (Menu >Configuration> Network).
2. Click the More Settings tab.

3. Enter the RTSP port number in the RTSP Port field.

   The default RTSP port is 554. You can change it according to your requirements.
4. Click Apply to save and exit the menu.

Configuring server and HTTP ports

You can change the server and HTTP ports in the Network Settings menu. The default server port is 8000 and the default HTTP port is 80.

To configure the server and HTTP ports:

1. Enter the Network Settings interface (Menu > Configuration > Network).
2. Click the More Settings tab to enter the More Settings interface.

3. Enter the server port and HTTP port in the text fields.
4. The default server port is 8000.

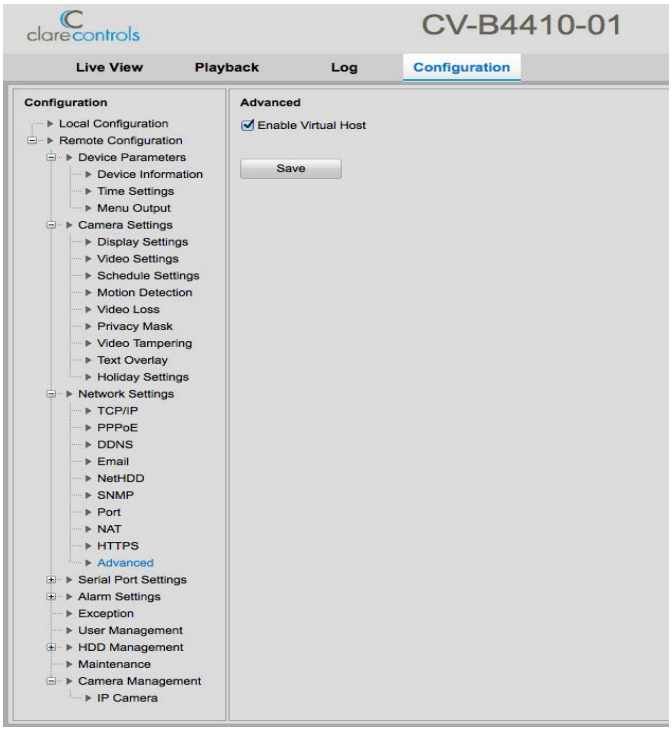
   Note: The server port is set in the range of 2000 to 65535. Use it for remote client software access. The HTTP port is used for remote IE access. The default HTTP Port is 80. You can change them according to your requirements.
5. Click **Apply** to save and exit the interface.

Configuring Advanced

You can enable Virtual Host in the Advanced tab. You can then click a link on the NVR, view the specified IP camera's web page, and change the IP camera's advanced settings.

To configure the Advanced settings:

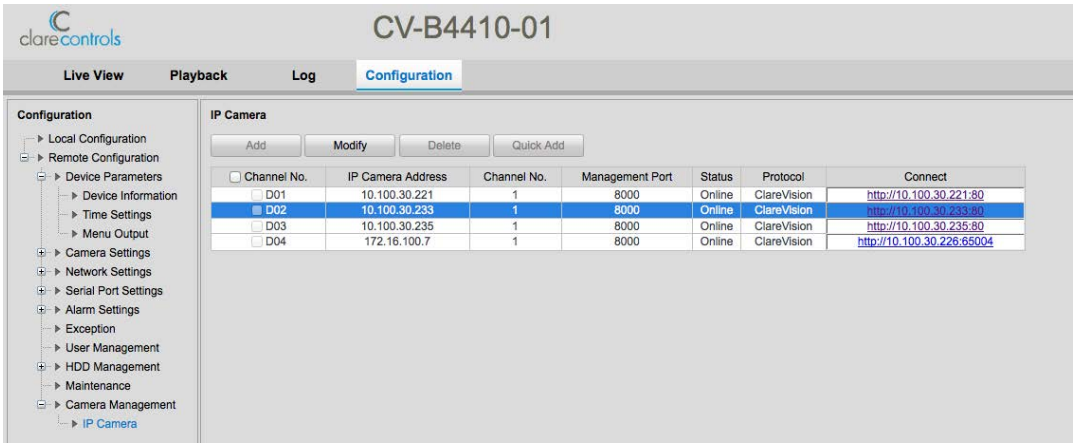
1. Enter the Advanced menu (Menu > Configuration > Network Settings > Advanced).
2. Check the Enable Virtual Host check box.



3. Click Save.

To configure the IP camera:

1. Enter the IP Camera menu (Menu > Configuration > Remote Configuration > Camera Management > IP Camera).



2. Select a camera, and then click Add, Modify, Delete, or Quick Add for the desired function.
3. Click Save.

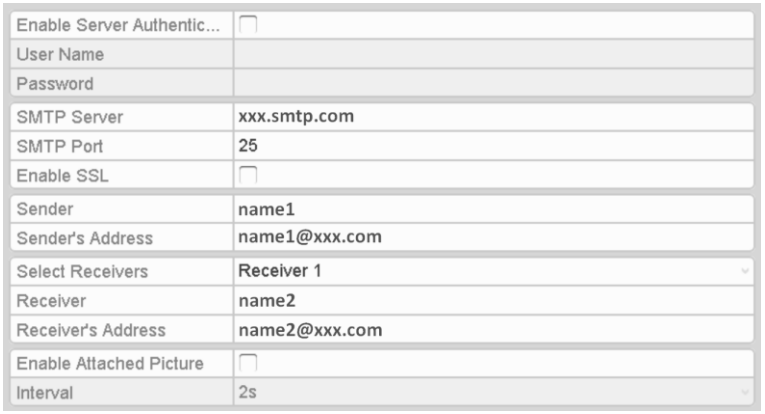
Configuring email

You can configure the system to send an email notification to all designated users when an alarm event is detected, an alarm or motion event is detected, or the administrator password is changed.

Before configuring the email settings, you must connect the NVR to a local area network (LAN) that maintains an SMTP mail server. You must also connect the network to either an intranet or the Internet, depending on the location of the email accounts where you want to send notifications.

To configure email:

1. Enter the Network Settings interface (Menu > Configuration > Network).
2. Set the IPv4 address, IPv4 subnet mask, IPv4 gateway, and the preferred DNS server in the Network Settings menu.
3. Click Apply to save the settings.
4. Click the Email tab.



5. Configure the following email settings.

   Enable Server Authentication (optional): Check the check box to enable the server authentication feature.

   User Name: The user account of sender’s email for SMTP server authentication.

   Password: The password of sender’s email for SMTP server authentication.

   SMTP Server: The SMTP server IP address or host name (e.g., smtp.263xmail.com).

   SMTP Port No.: The SMTP port. The default TCP/IP port used for SMTP is 25.

   Enable SSL (optional): Check the check box to enable SSL, if required by the SMTP server.

Sender: The name of sender.

Sender's Address: The email address of sender.

Select Receivers: Select the receiver. You can configure up to three receivers.

Receiver: The name of user notified.

Receiver's Address: The email address of user notified.

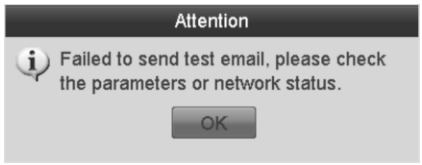
Enable Attached Pictures: Check the **Enable Attached Picture** check box if you want to send emails with attached alarm images. The interval is the time of two adjacent alarm images. You can also set SMTP port and enable SSL here.

Interval: The interval is the time between two actions of sending attached pictures.

Email Test: Sends a test message to verify that the SMTP server is reached.

6. Click Apply to save the email settings.
7. Click Test to verify your email setting are working properly.

   The Attention dialog displays the results.



Configuring high-speed downloads

You can enable the High-speed Download function to widen the outgoing bandwidth of the device. In this way you can speed the download of record files through a browser, or CMS software.

Note: When you enable the high-speed download function, the local menu operation may become stuck. We recommend that you disable this function after finishing the remote downloading of record files.

To configure high-speed downloads:

1. Enter the Network Settings interface (Menu > Configuration > Network).
2. Click the More Settings tab to enter the More Settings interface.
3. Click the Enable High-speed Download check box, and then click OK to confirm the settings.

Figure 34: High-speed Download settings menu

Figure 35: High-speed Download message dialog

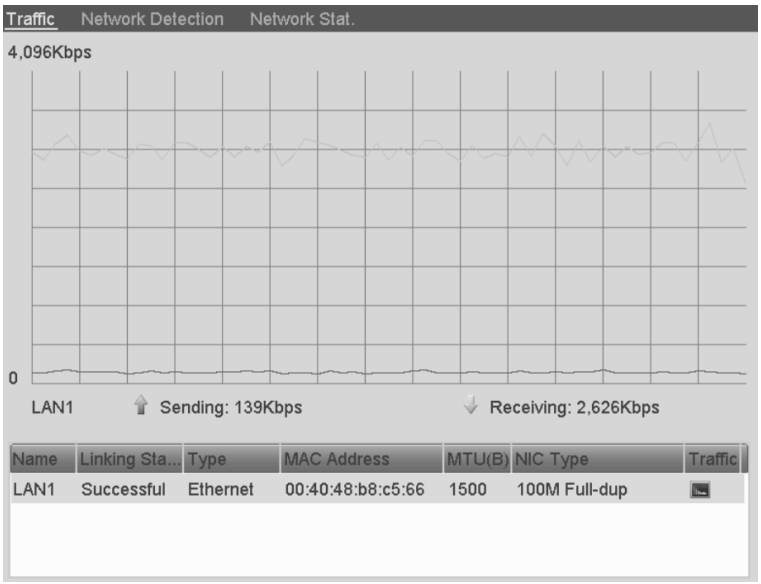
4. Click Apply to save and exit the interface.

Checking network traffic

You can check the network traffic to obtain real-time information of the NVR such as linking status, MTU, sending/receiving rate, etc.

To configure network traffic:

1. Enter the Network Traffic interface (Menu > Maintenance > Net Detect).



You can view the sending rate and receiving rate information on the interface. The traffic data is refreshed every second.

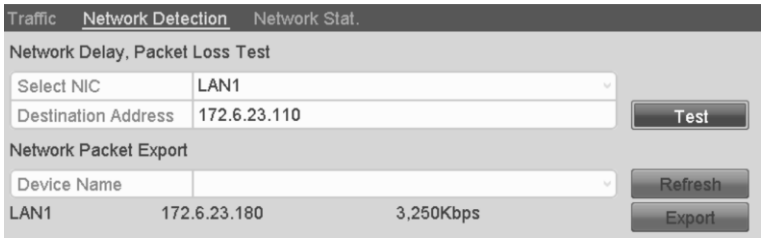
Configuring network detection

You can obtain the network connection status of the NVR through the network detection function, including network delay and packet loss.

Testing network delay and packet loss

To test network delay and packet loss:

1. Enter the Network Traffic interface (Menu > Maintenance > Net Detect).
2. Click the Network Detection tab to enter the Network Detection menu.



3. Enter the destination address in the Destination Address field.
4. Click Test to start testing network delay and packet loss.

   The testing result display in the window. If the test fails, the error message displays.

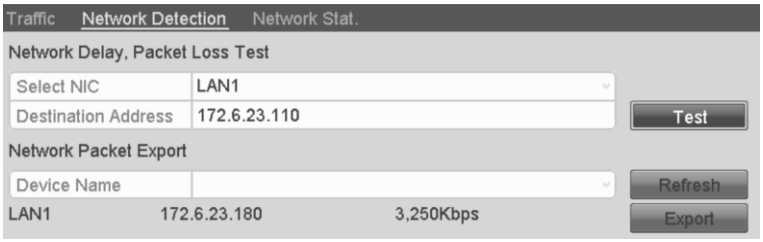
Exporting network packets

By connecting the NVR to network, the captured network data packet is exported to a USB flash drive, SATA/eSATA, or other devices.

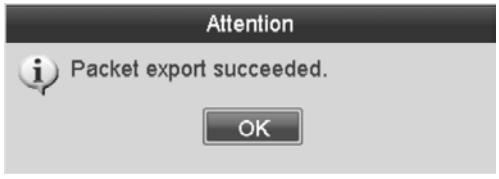
To export network packets:

1. Enter the Network Traffic interface (Menu > Maintenance > Net Detect).
2. Click the Network Detection tab to enter the Network Detection interface.
3. Select the backup device from the list.
4. Click Refresh when the connected local backup device cannot diaplay.

   If it fails to detect the backup device, check if it is compatible with the NVR. You can format the backup device when the format is incorrect.



5. Click Export to start exporting.
6. Click OK to finish the packet export.



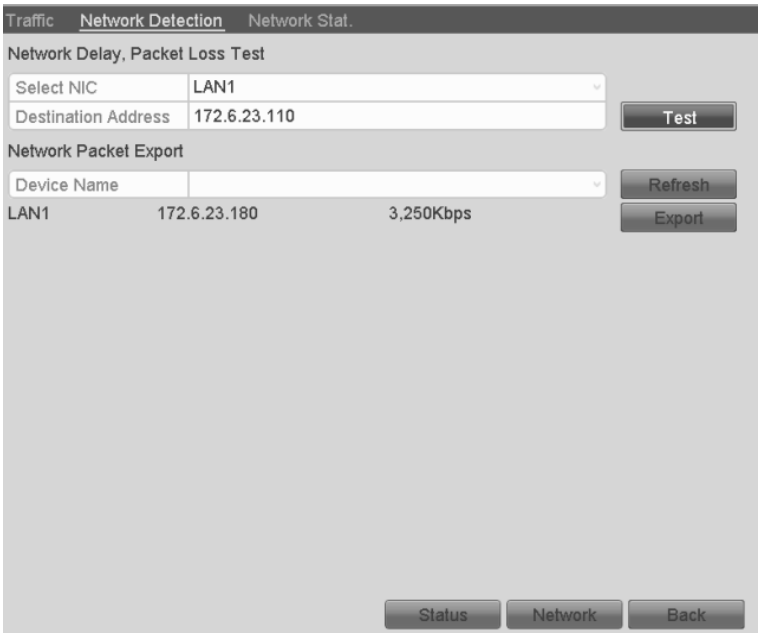
Note: Up to 1M data is exported each time.

Checking the network status

You can also check the network status and quickly set the network parameters in this interface.

To check the network status:

1. Click Status on the bottom right corner of the page.



2. If the network is normal, the Result dialog displays.

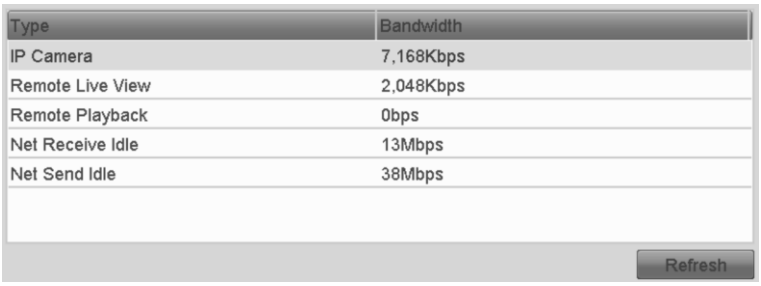
Note: If the status is not normal, the dialog will indicate the error. Click Network to show the Quick Setting interface for the network parameters.

Checking network statistics

You can check the network statistics to obtain the real-time information of NVR.

To check network statistics:

1. Enter the Network Detection interface (Menu > Maintenance > Net Detect)
2. Click the Network Stat**.** tab.



3. Check the bandwidth of IP camera, remote live view, remote playback, net receive idle, and net send idle.
4. Click Refresh to get the newest statistics.

Chapter 10
RAID

Note: This chapter is applicable for 64-Channel NVRs only.

Configuring array and virtual disk

RAID (redundant array of independent disks) is a storage technology that combines multiple disk drive components into a logical unit. A RAID setup stores data over multiple hard disk drives to provide enough redundancy so data is recovered if one disk fails. Data is distributed across the drives in one of several ways called "RAID levels", depending on the redundancy and performance level required. The 64-Channel NVR is capable of realizing Redundant Array of Independent Disk, supporting RAID0, RAID1, RAID5 and RAID10.

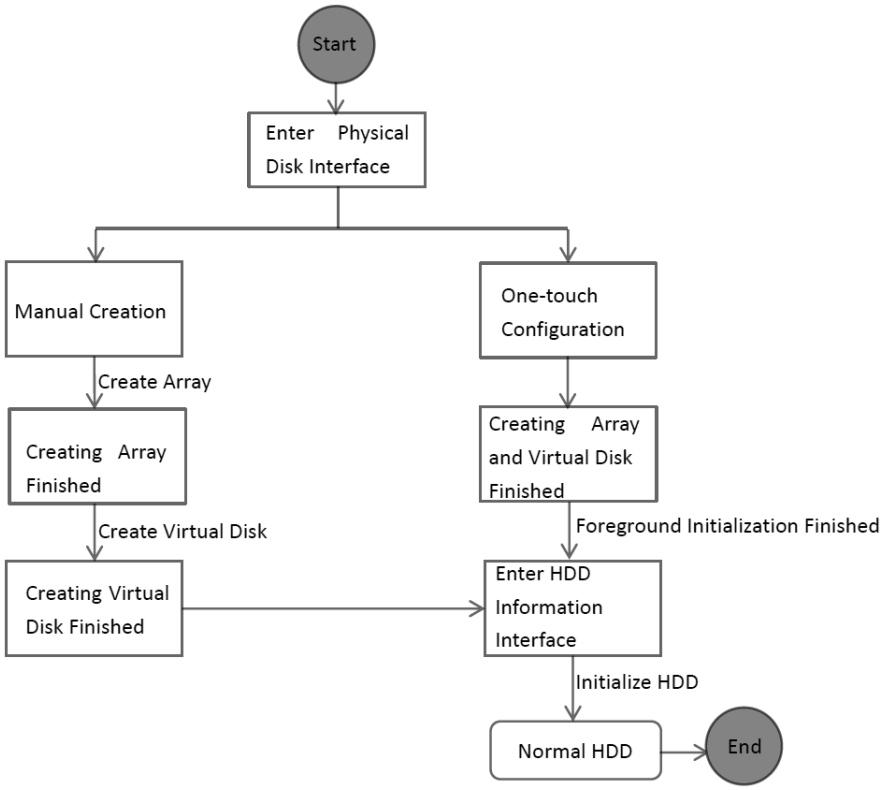
Before you start

Install the HDD(s) using the same enterprise-level HDDs (including model and capacity) for the array creation and configuration maintaining reliable and stable running conditions for the disks.

Introduction

The 64-Channel NVR can store the data (such as record, picture, and log information) in the HDD only after you have created the virtual disk or you have configured network HDD, see “Managing Network HDD” on page 134. Our device provides two ways for creating the virtual disk, including one-touch configuration and manual configuration. The following flow chart shows the process of creating virtual disk.

Figure 36: RAID workflow

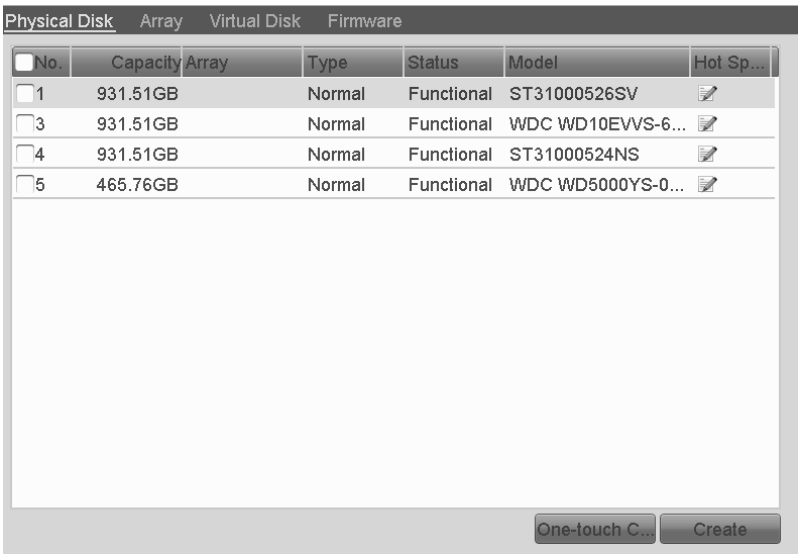


One-touch configuration

Through one-touch configuration, you can quickly create the disk array and virtual disk. By default, the array type is RAID 5.

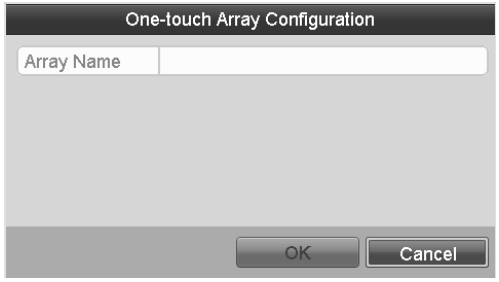
Steps:

1. Enter the Physical Disk Settings interface (Menu > HDD > RAID > Physical Disk).



2. Click the One-touch Configuration button to enter the One-touch Array Configuration interface.

   Note: As the default array type is RAID 5, at least three HDDs are installed in your device.

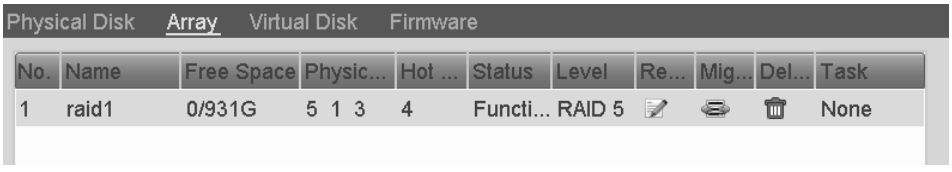


3. Edit the array name in the Array Name field, and then click OK to start configuring array.

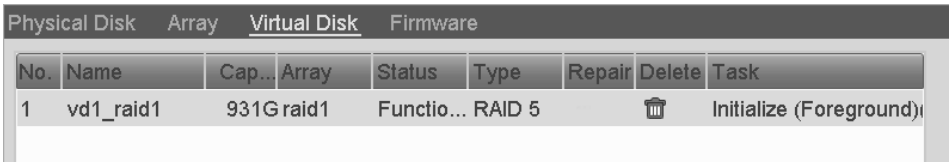
   Note: If you install four or more HDDs for one-touch configuration, a hot spare disk will is set by default. We recommend that you set the hot spare disk to automatically rebuild the array when the array is abnormal.

4. When the array configuration is complete, click OK to finish the settings.
5. Click the Array tab to view the information of the successfully created array.

   Note: By default, one-touch configuration creates an array and a virtual disk. If the capacity of the array created through one-touch configuration is greater than 16 TB, two arrays and two virtual disks are created.



6. Click the Virtual Disk tab to view the automatically created virtual disk.



After the foreground initialization of the virtual disk is complete, the virtual disk displays in the HDD Information interface (Menu > HDD > General).

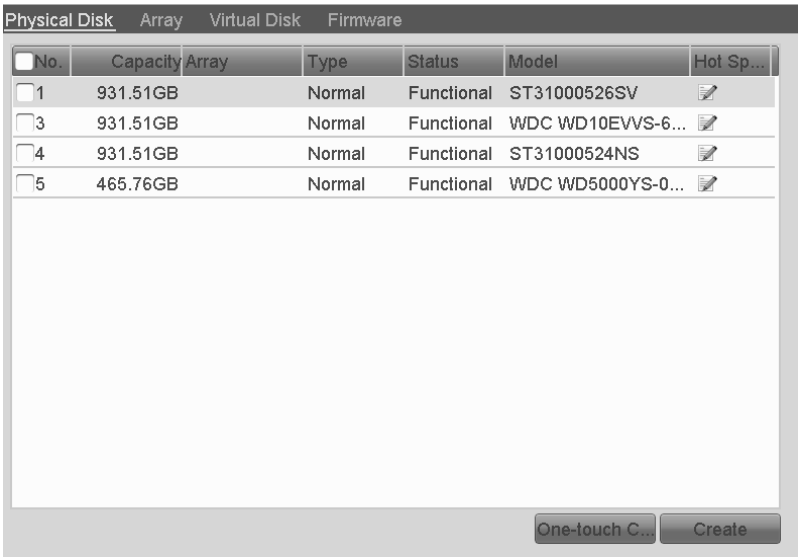
Manually creating array and virtual disk

You can manually create the array of RAID 0, RAID 1, RAID 5 and RAID 10.

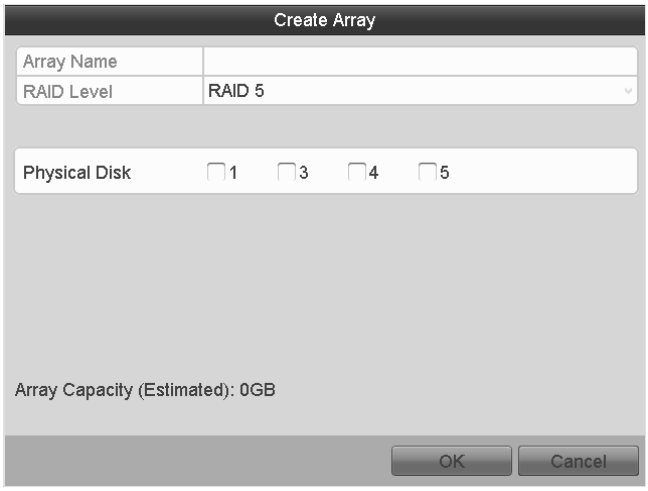
Note: In this section, we use RAID 5 as an example describing the manual configuration of array and virtual disk.

To manually create an array and virtual disk:

1. Enter the Physical Disk Settings interface (Menu > HDD > RAID > Physical Disk).



2. Click Create to enter the Create Array interface.



3. Edit the Array Name; set the RAID Level to RAID 0, RAID 1, RAID 5 or RAID 10; and select the Physical Disk that you want to configure array.

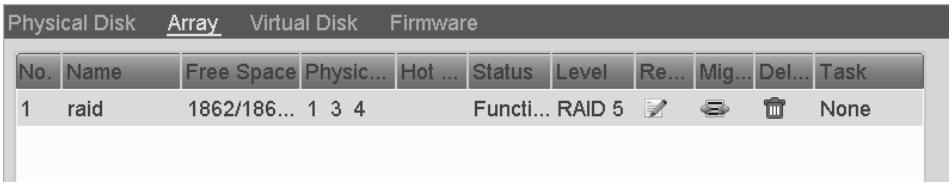
   Notes

   - If you choose RAID 0, at least two HDDs are installed.
   - If you choose RAID 1, two HDDs are configured for RAID 1.
   - If you choose RAID 5, at least three HDDs are installed.
   - If you choose RAID 10, four, six, or eight HDDs are configured for RAID 10.

4. Click OK to create an array.

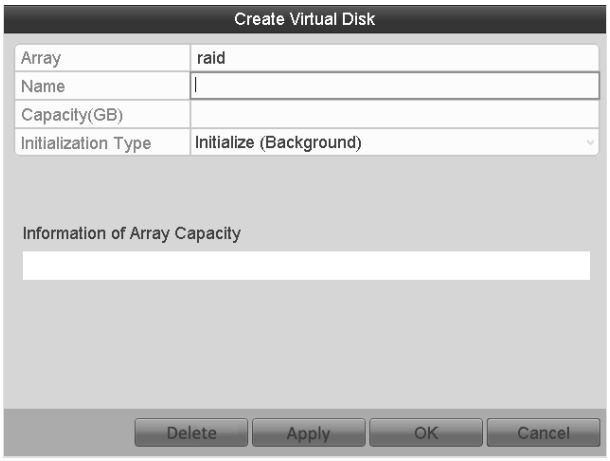
   Note: If the number of HDDs you select is not compatible with the requirement of the RAID level, the error dialog displays.

5. Click the Array tab to view the successfully created array.



6. Click to select an array, and then click Create Virtual Disk to enter the Create Virtual Disk interface.

   Note: The device supports creating up to eight virtual disks.



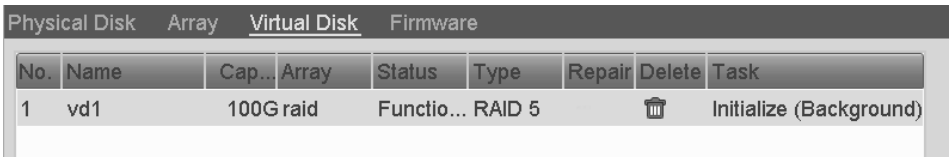
7. Edit the name of the virtual disk, set the capacity for the virtual disk, and select the initialization type for the virtual disk.

   Notes

   - You can click the Information of Array Capacity area to set the remaining capacity of the array for the disk.
   - It is recommended to create one virtual disk of an array.
   - At least 100 GB capacity are configured for each virtual disk.
   - There are three initialization types, Background, Foreground, and Fast.
     - **Fast (Not Recommended):** The fast initialization is quick, only initializes part of the data of the virtual disk, and cannot detect bad sectors.
     - **Foreground (Recommended):** By using foreground initialization, the virtual disk is completely initialized and the bad sector of the hard disks is detected and repaired. The virtual disk is used only after the initialization is complete.
     - **Background:** The background initialization can synchronize the disks, detect, and repair the bad sector of the disks. During the background initialization, the virtual disk is allowed.

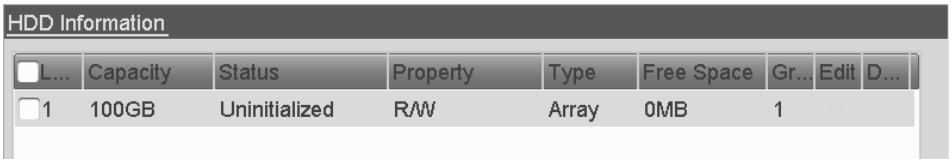
8. Click Apply to save the settings, and then click OK to return to Array Settings interface.
9. Click the Virtual Disk tab to enter the Virtual Disk interface.

   A successfully created virtual disk is listed on the interface.

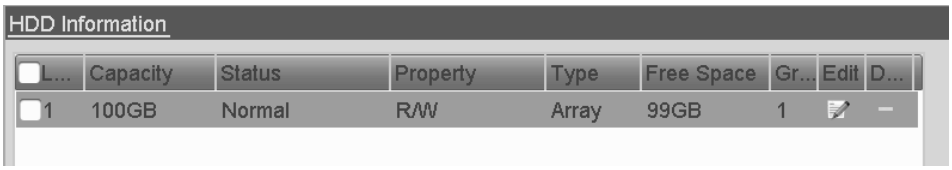


10. Enter the HDD Information interface (Menu > HDD > General) and the virtual disk displays. For the operation guide of initializing the virtual disk, see “Initializing HDDs” on page 133.

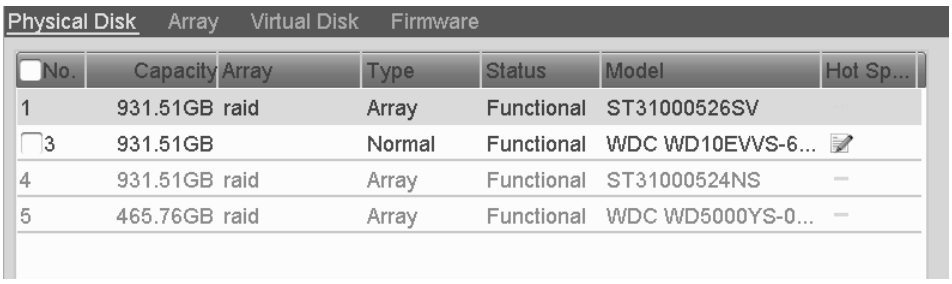
    Note: If you adopt foreground initialization, the virtual disk displays in the HDD Information interface after the initialization is complete.



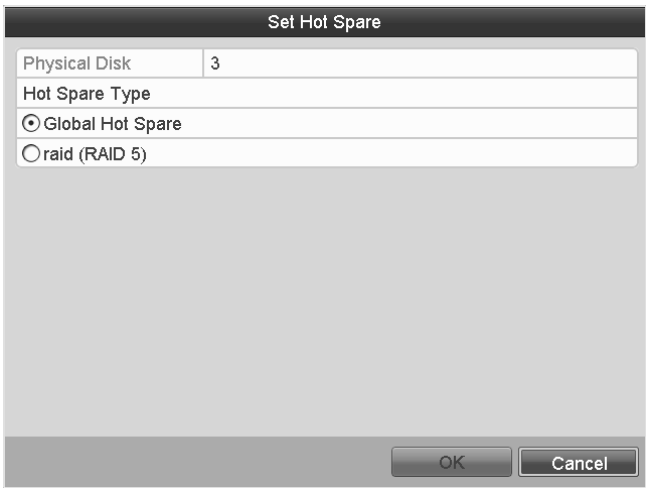
    After initializing the virtual disk, the status will change from Uninitialized to Normal.



11. Enter the Physical Disk Settings interface to configure the hot spare disk.



12. Select a disk, and then click to enter the Set Hot Spare interface.



13. Set the hot spare type of the selected HDD to Global Hot Spare or the specified hot spare for the existing array.

- Global Hot Spare: It is used as the hot spare for any array created in the system.
- Array Hot Spare: It is used as the hot spare for the specified array only. (e.g., RAID 5)

14. Click OK to finish the settings.

Note: When the auto-rebuild function is enabled, the hot spare disk is automatically used to rebuild the array when the virtual disk is in Degraded status.

Rebuilding array

The working status of array includes Functional, Degraded, and Offline. By viewing the array status, you can perform immediate and proper maintenance for the disks to ensure high security and reliability of the data stored in the disk array.

When there is no disk loss in the array, the working status of array changes to Functional. When the number of lost disks has exceeded the limit, the working status of array changes to Offline. In other conditions, the working status is Degraded. If the virtual disk is in Degraded status, you can restore it to functional by rebuilding the array.

Automatically rebuilding the array

When the virtual disk is in Degraded status, the device can start rebuilding the array automatically with the hot spare disk to ensure the high security and reliability of the data.

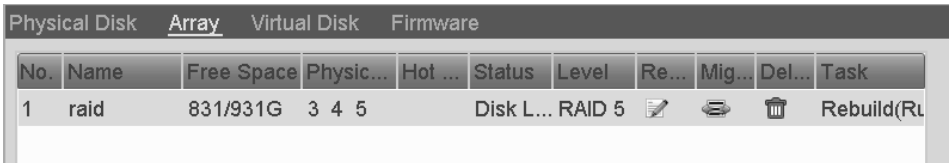
Before you start

Enable the Auto-rebuild in the Firmware Settings interface (Menu > HDD > RAID > Firmware) and ensure the hot spare disk has been configured.

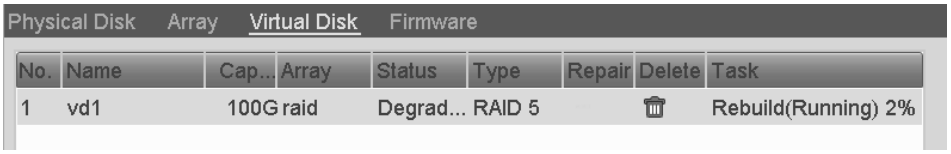
To automatically rebuild an array:

1. Enter the Array Settings interface (Menu > HDD > RAID > Array).

   The status of the array is Disk Loss. If the hot spare disk is configured and Auto-rebuild function is enabled, the hot spare disk is automatically used for array rebuilding.



2. Enter the Virtual Disk interface to view the rebuilding status of the virtual disk (Menu > HDD > RAID > Virtual Disk).



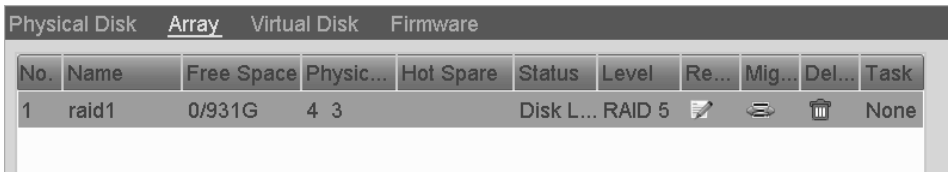
Note: If there is no hot spare disk after rebuilding, we recommend installing the HDD into the device and set is as a hot spare disk. This will ensure high security and reliability of the array.

Manually rebuilding array

If you do not enable the auto-rebuild in Firmware Settings interface (Menu > HDD > RAID > Firmware), or if the hot spare disk was not been configured, then you can rebuild the array manually to restore the array when the virtual disk is in Degraded status.

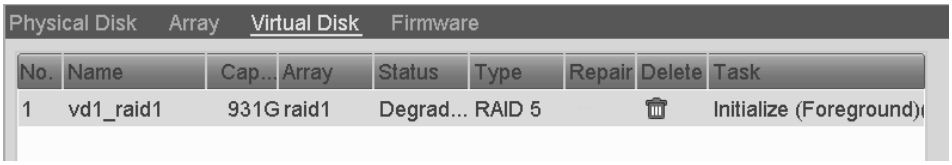
To manually rebuild an array:

1. Enter the Array Settings interface (Menu > HDD > RAID > Array).



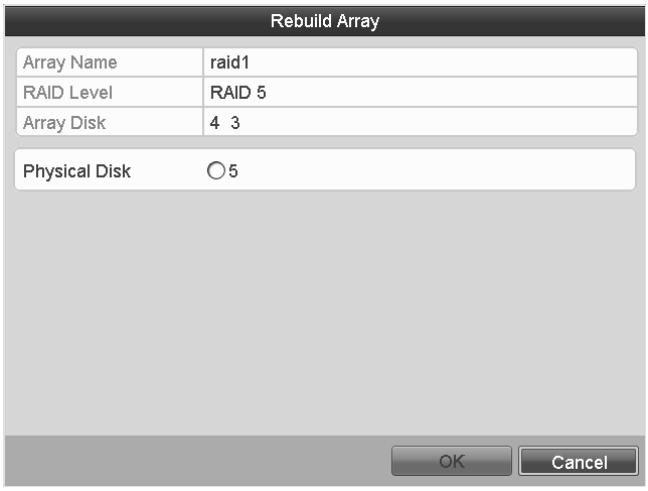
2. Enter the Virtual Disk interface to check the status of the virtual disk.

   In the example below, the virtual disk shows a Degraded status.



3. Click the Array tab to return to the Array Settings interface, and then click to configure the array rebuild.

   Note: At least one available physical disk should exist for rebuilding the array.



4. Select the available physical disk, and then click OK to confirm rebuilding the array.
5. The “Do not unplug the physical disk when it is under rebuilding” dialog displays. Click OK to start the rebuild.

You can enter the Array Settings interface and the Virtual Disk interface to view the rebuilding status.

After rebuilding successfully, the array and virtual disk restores to Functional.

Note: We recommend enabling the Auto-rebuild function and setting the hot spare disk for automatically rebuilding the array.

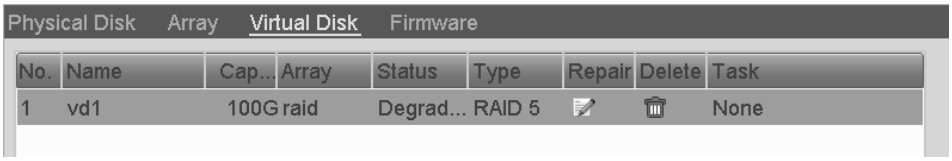
Repairing a virtual disk

If the disk cannot display in the HDD Information interface, but the virtual disk still shows in the Array Settings interface, you must repair the virtual disk.

Note: Repair is unavailable if the virtual disk is under foreground initialization.

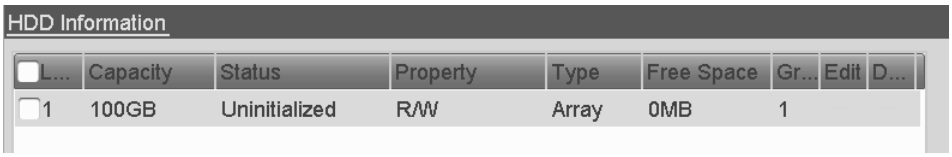
To repair a virtual disk:

1. Enter the Virtual Disk interface (Menu > HDD > RAID > Virtual Disk).



2. Click to repair the virtual disk.
3. When the dialog notifies you that the repair was successful, click OK to finish.

The disk shows in the HDD Information interface (Menu > HDD > General).



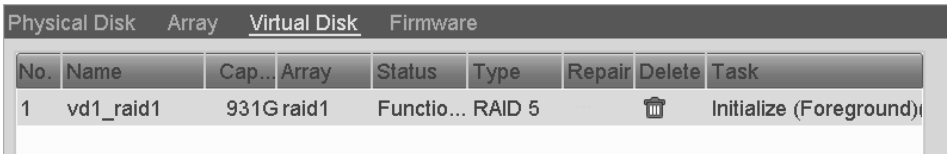
Deleting the virtual disk and array

Before deleting the array, you must delete the virtual disks that exist under the array. Deleting an array and virtual disk will delete all data saved on the disk.

Deleting the virtual disk

To delete the virtual disk:

1. Enter the Virtual Disk interface (Menu > HDD > RAID > Virtual Disk).


Physical Disk Array Virtual Disk Firmware
No. Name Cap... Array Status Type Repair Delete Task
1 vd1_raid1 931G raid1 Functio... RAID 5 Initialize (Foreground)

2. Select a virtual disk, and then click to delete the virtual disk.

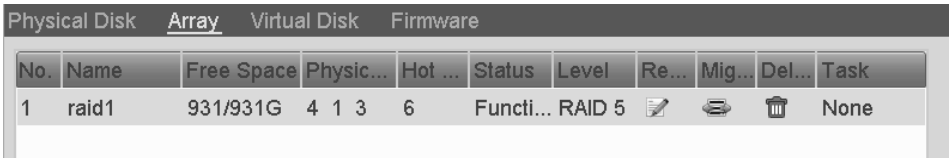
3. Click Yes to confirm the virtual disk deletion.

Deleting the array

Before deleting the array, ensure all the virtual disks existing under an array have been deleted.

To delete the array:

1. Enter the Array Settings interface (Menu > HDD > RAID > Array).



2. Select an array, and then click to delete the array.

3. Click Yes to confirm the array deletion.

Migrating and extending

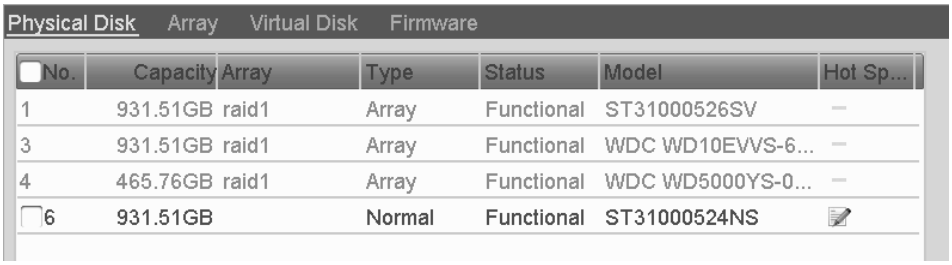
When the remaining storage space is lower than what is needed, use array migration and extend it to enlarge the capacity of the virtual disk.

Before you start

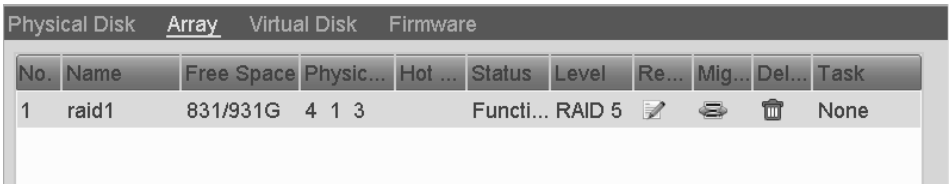
At least one available physical disk should exist for the array migration.

To migrate and extend storage:

1. Enter the Physical Disk Settings interface (Menu > HDD > RAID > Physical Disk).



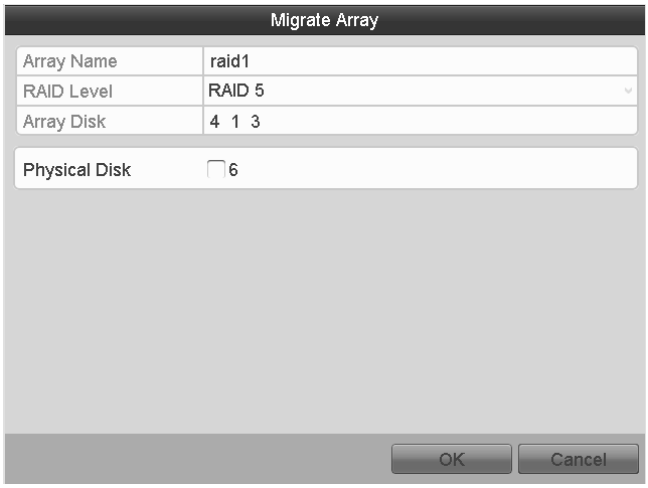
2. Click the Array tab to enter the Array Settings interface.



3. Select the array to migrate, and then click to enter the Migrate Array interface.

Notes

- Only migrating from RAID 5 to RAID 5 is supported by the device.
- If there is no virtual disk existing under the array, the array migration is not done.
- If the virtual disk of the array is under initialization, the array migration is not done.



4. Select the available physical disks, and then click OK to confirm the settings.
5. When prompted, click OK to start migration.

   Enter the Array Settings interface (Menu > HDD > RAID > Array) and Virtual Disk interface (Menu > HDD > RAID > Virtual) to check the process of the migration.

Figure 37: Array interface

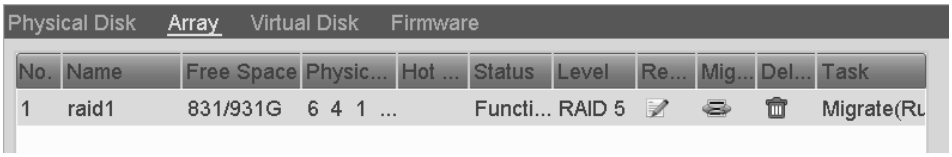
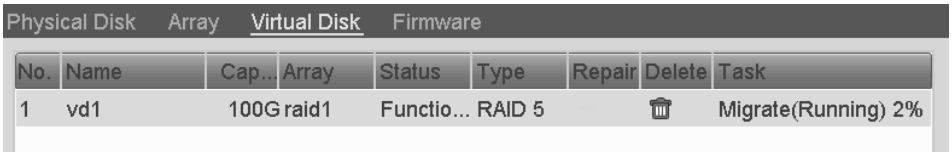


Figure 38: Virtual Disk interface



6. When the migration process finishes, reboot the device to enable the new settings.

7. After rebooting, enter the HDD Information interface, select an expandable virtual disk, and then click Expand to expand the virtual disk's capacity.

8. Click OK to start expanding.

9. When prompted, click **OK** to finish the settings.

After RAID migration and capacity expansion, the expanded capacity for each virtual disk is calculated by the following formula: Expanded VD capacity = (Original VD Capacity / Original Array Capacity) * Newly Added Capacity of Hard Disk.

Example

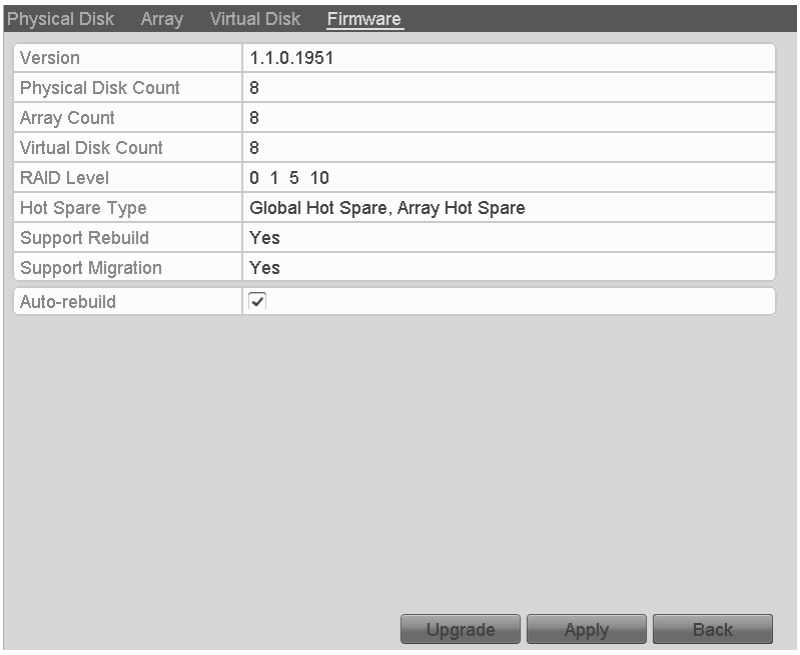
The capacity of the original array is 2 TB and two virtual disks exist under this array, VD1 (100 GB) and VD2 (200 GB). If you migrate the array with a 1 TB HDD, then after migration and expanding, the expanded VD1 capacity is 50 GB (50 GB = (100 GB/ 2 TB)*1TB) and the expanded VD2 capacity is 100 GB (100 GB = (200 GB/ 2T B)*1 TB).

Upgrading firmware

You can view the information of the firmware and upgrade the firmware by local backup device or remote FTP server.

To upgrade the firmware:

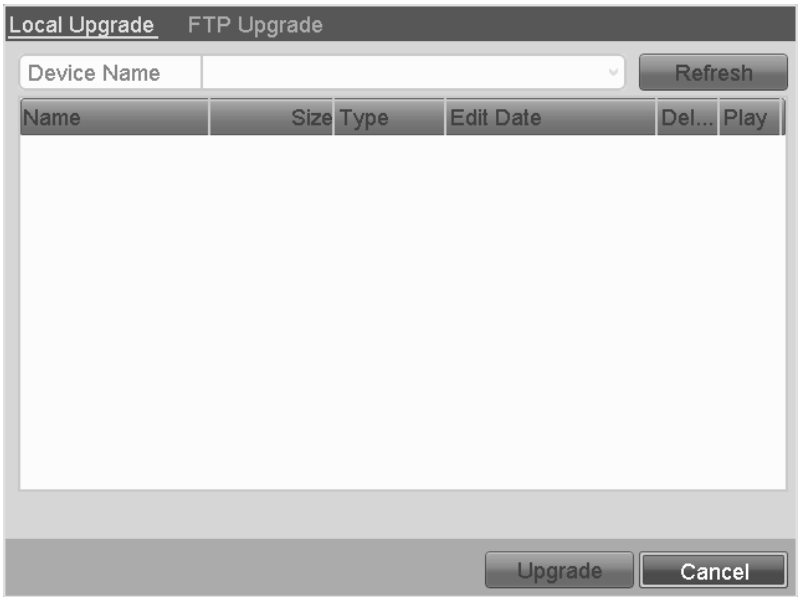
1. Enter the Firmware interface to check the information of the firmware, including the version, maximum physical disk quantity, maximum array quantity, auto-rebuild status, etc.



2. Click Upgrade to upgrade the firmware.

   Local and FTP upgrades are available.

   Note: contact the dealer immediately if the device does not work properly after upgrading.



Chapter 11
HDD Management

Initializing HDDs

Initialize the hard disk drive (HDD) before using it with your NVR.

Notes

- When the NVR starts, a dialog displays if any uninitialized HDD exists.
- Initializing the HDD will erase all existing data on it.

Figure 39: Dialog of uninitialized HDD

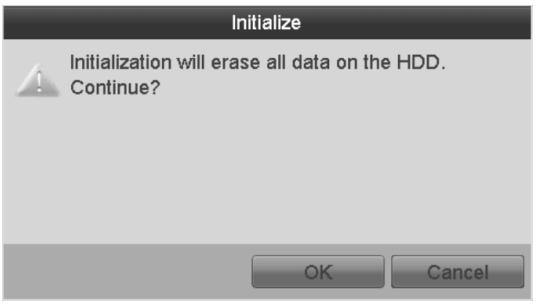
Attention
Not all hard disks are initialized. Initialization will erase all data on the disk. Do you want to initialize the disk(s)?
Yes
No

Click Yes to initialize it immediately, or you can perform the following steps to initialize the HDD.

To initialize HDD:

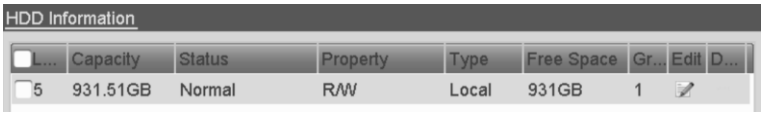
1. Enter the HDD Information interface (Menu > HDD > General).

2. Select the HDD for initialization.
3. Click the Init button.



4. Select the OK button to start initialization.

5. After the HDD has initialized, the status is changed from Uninitialized to Normal.

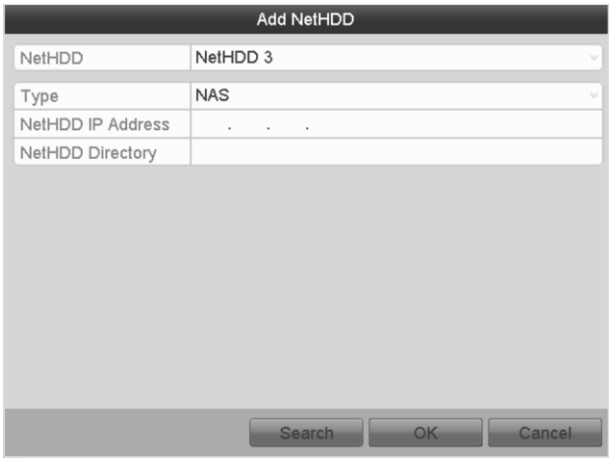


Managing Network HDD

You can add the allocated NAS or disk of the IP SAN to NVR, and use it as a network HDD.

To manage the HDD network:

1. Enter the HDD Information interface (Menu > HDD > General).
2. Click Add to enter the Add NetHDD interface.



3. Add the allocated NetHDD.

4. Set the type to NAS or IP SAN.
5. Configure the NAS or IP SAN settings.

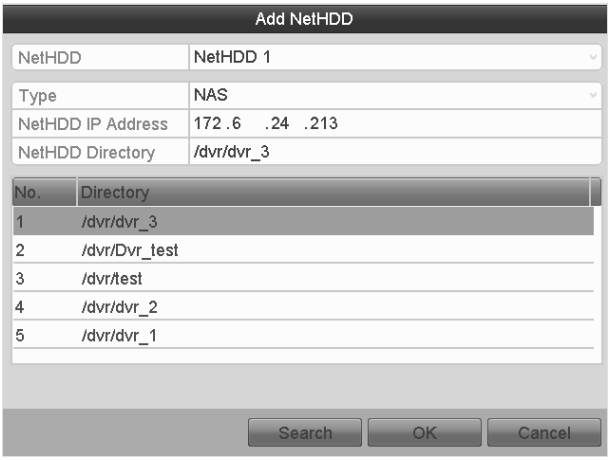
To add NAS disk:

1. Enter the NetHDD IP address in the text field.
2. Click the Search button to search the available NAS disks.
3. Select the NAS disk from the list shown below.

   — or —

   Manually enter the directory in the NetHDD Directory field.
4. Click OK to add the configured NAS disk.

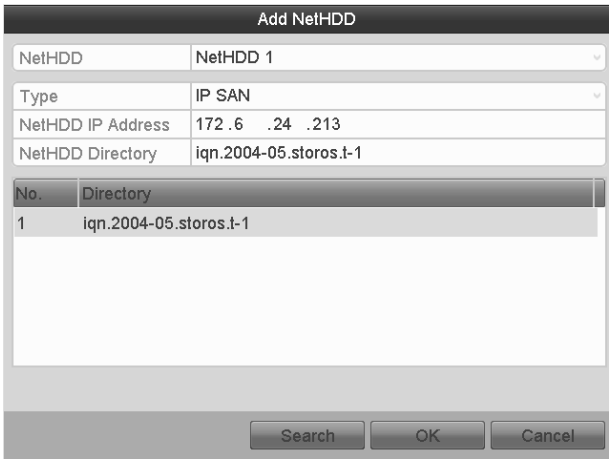
   Note: Up to eight NAS disks is added.



To add IP SAN:

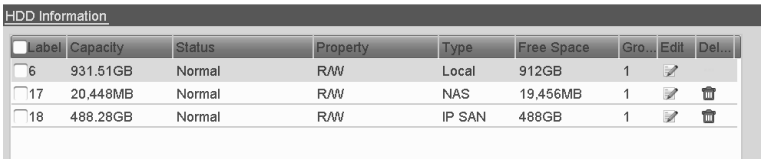
1. Enter the NetHDD IP address in the text field.
2. Click the Search button to search the available IP SAN disks.
3. Select the IP SAN disk from the list shown below.
4. Click OK to add the selected IP SAN disk.

   Note: One IP SAN disk is added.



5. After successfully adding the NAS or IP SAN disk, return to the HDD Information menu. The added NetHDD displays in the list.

   Note: If the added NetHDD is uninitialized, select it and click the **Init** button for initialization.



Managing eSATA

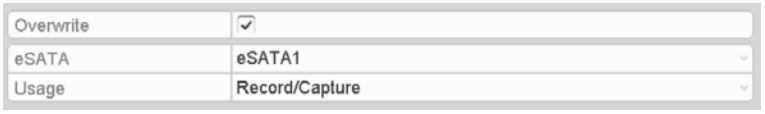
When there is an external eSATA device connected to NVR, you can configure eSATA t Record/Capture or Export, and you can manage the eSATA in the NVR.

To manage eSATA:

1. Enter the Advanced Record Settings interface (Menu > Record > Advanced).
2. Select the eSATA type to Export or Record/Capture from the drop-down list of eSATA.

   Export: use the eSATA for backup.

   Record/Capture: use the eSATA for record/capture. Refer to the following steps for operating instructions.

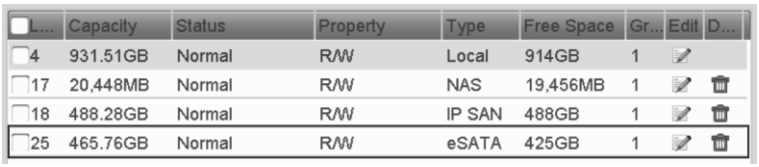


To use eSATA to record and capture:

1. Select Record/Capture, and then enter the HDD Information interface (Menu > HDD > General).

2. Edit the property of the selected eSATA, or initialization is required.

Note: When used for Record/Capture, two storage modes is configured for the eSATA. Refer to “Managing the HDD group” on page 137 and “Configuring Quota mode” on page 139 for details.



L...	Capacity	Status	Property	Type	Free Space	Gr...	Edit	D...
4	931.51GB	Normal	R/W	Local	914GB	1		
17	20,448MB	Normal	R/W	NAS	19,456MB	1		
18	488.28GB	Normal	R/W	IP SAN	488GB	1		
25	465.76GB	Normal	R/W	eSATA	425GB	1		

Managing the HDD group

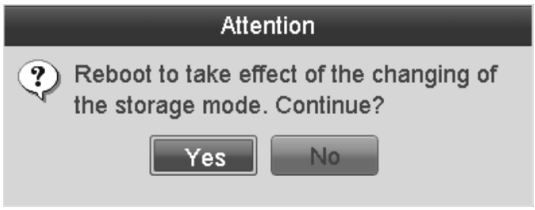
Setting HDD groups

Multiple HDDs is managed in groups. Video from specified channels is recorded to a particular HDD group through HDD settings.

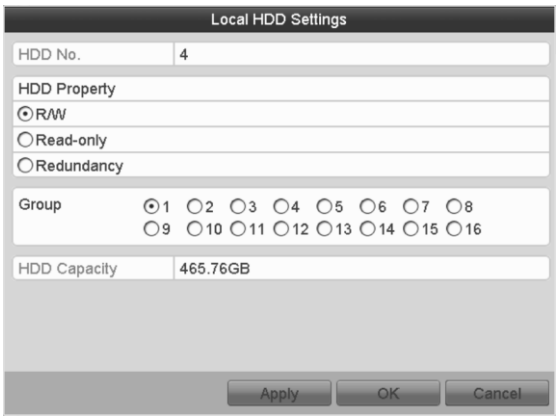
To manage HDD groups:

1. Enter the Storage Mode interface (Menu > HDD > Advanced).
2. Set the Mode to Group.

3. Click Apply**.** The Attention dialog displays.



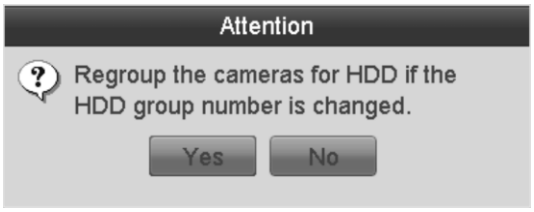
4. Click Yes to reboot the device and activate the changes.
5. After the reboot completes, enter the HDD Information interface (Menu > HDD > General).
6. Select HDD from the list and click to enter the Local HDD Settings interface.



7. Select the Group number for the current HDD.

   Note: The default group number for each HDD is 1.

8. Click OK to confirm the settings. The Attention dialog displays.



9. Click Yes to finish the settings.

Setting the HDD property

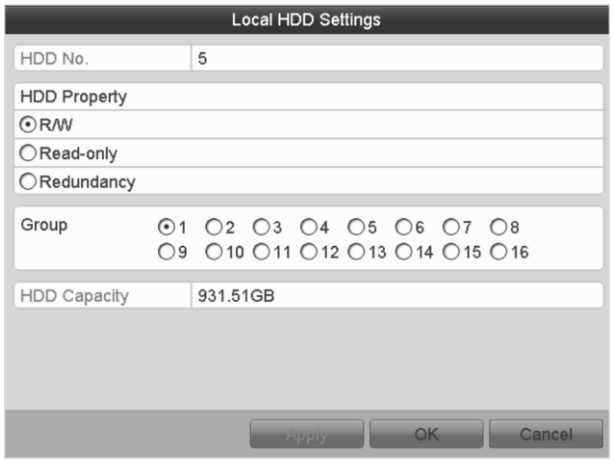
The HDD property is set to redundancy, read-only, or read/write (R/W). Before setting the HDD property, set the storage mode to Group.

An HDD is set to read-only to prevent important recorded files from being overwritten when the HDD becomes full in overwrite recording mode.

When the HDD property is set for redundancy, the video is recorded on both the redundancy HDD and the R/W HDD simultaneously. This ensures high security and reliable video data.

To set HDD properties:

1. Enter the HDD Information interface (Menu > HDD > General).
2. Select HDD from the list, and then click to enter the Local HDD Settings interface.



3. Set the HDD property to R/W, Read-only, or Redundancy.
4. Click OK to save the settings and exit the interface.

In the HDD Information menu, the HDD property displays in the HDD Information menu.

Note: At least two hard disks are installed on your NVR in order to set the HDD to Redundancy, and one HDD with the R/W property.

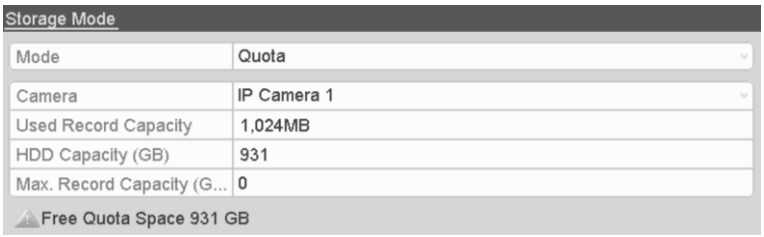
Configuring Quota mode

Each camera is configured with an allocated quota for the storage of recorded files or captured pictures.

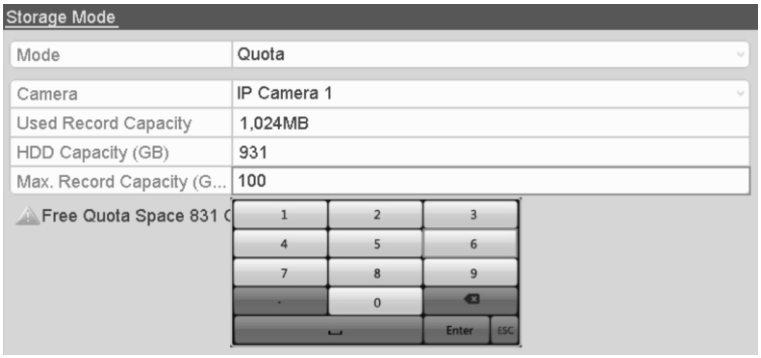
To configure Quota mode:

1. Enter the Storage Mode interface (Menu > HDD > Advanced).
2. Set the mode to Quota.

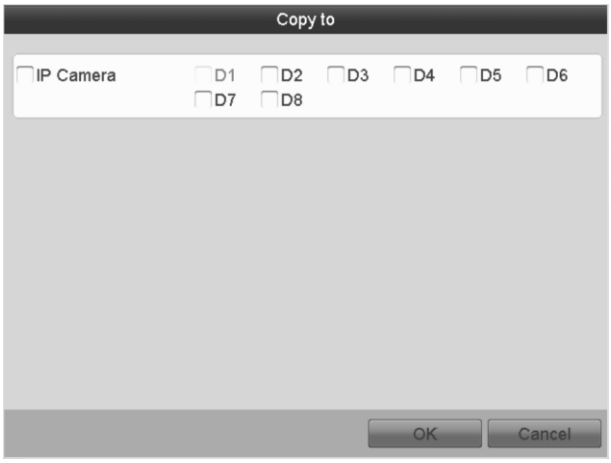
   Note: Reboot the NVR to enable the changes to take effect.



3. Select a camera to configure quota.
4. Enter the storage capacity in the text fields of Max. Record Capacity (GB) and Max. Picture Capacity (GB).



5. You can copy the quota settings of the current camera to other cameras if required. Click the Copy button to enter the Copy Camera menu.



6. Select the camera(s) to configure with the same quota settings. You can also check the check box of IP Camera to select all cameras.
7. Click OK to finish the Copy settings and return to the Storage Mode interface.
8. Click Apply to apply the settings.

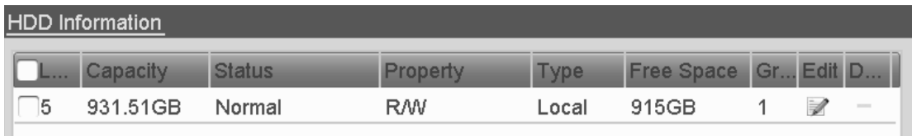
Note: If the quota capacity is set to “0,” then all cameras will use the total capacity of HDD for record and picture capture.

Checking HDD status

You can check the status of the HDDs installed on the NVRs so that you can take immediate action in case of an HDD failure.

To check the status on the General tab:

1. Enter the HDD Information interface (Menu > HDD > General).
2. Check the status of each HDD displayed in the list.



Note: If the status is *Normal* or *Sleeping*, then the HDD is working normally. If the status is *Uninitialized* or *Abnormal*, initialize the HDD before use. If the HDD initialization failed, replace it with a new one.

To check the status on the System Info tab:

1. Enter the System Information interface (Menu > Maintenance > System Info).
2. Click the HDD tab to view the status of each HDD displayed on the list.

HDD detection

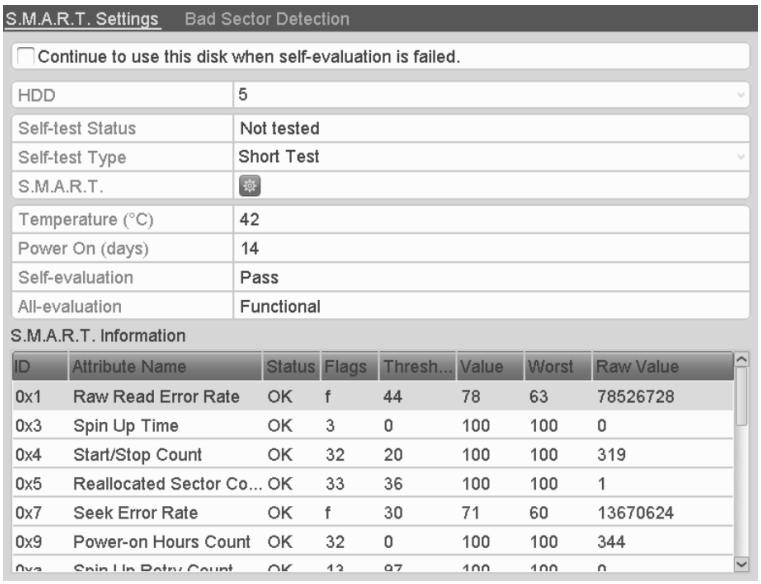
Note: The 64 Channel NVR does not support this function.

The device provides the HDD detection function such as adopting S.M.A.R.T. and the Bad Sector Detection technique. The S.M.A.R.T. *(*Self-Monitoring, Analysis and Reporting Technology*)* is a monitoring system for HDD. It detects and reports on various indicators of reliability in the hopes of anticipating failures.

S.M.A.R.T. settings

To set S.M.A.R.T.:

1. Enter the S.M.A.R.T. Settings interface (Menu > Maintenance > HDD Detect).
2. Select the HDD to view its S.M.A.R.T information list.



S.M.A.R.T. related information is shown on the interface. You can choose the self-test types as Short Test, Expanded Test or the Conveyance Test.

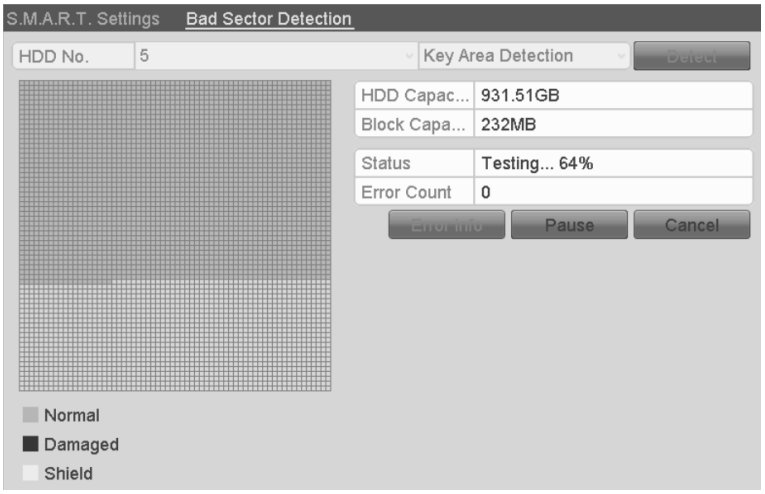
3. Click Start to start the S.M.A.R.T. HDD self-evaluation.

Note: If you want to use the HDD even when S.M.A.R.T. checking failed, you can click the Continue to use the disk when self-evaluation is failed check box.

Bad sector detection

To detect a bad sector:

1. Click the Bad Sector Detection tab.
2. Select the HDD number in the drop-down list you want to configure, and then choose All Detection or Key Area Detection as the detection type.
3. Click the Detect button to start detection.



4. Click Error to see the detailed damage information. You can click to pause, resume, or cancel the detection.

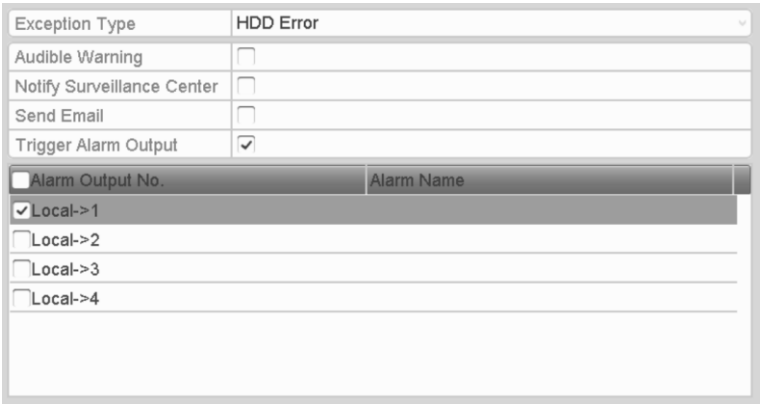
Configuring HDD error alarms

You can configure the HDD error alarms when the HDD status is *Uninitialized* or *Abnormal*.

To configure HDD error alarms:

1. Enter the Exception interface (Menu > Configuration > Exceptions)
2. From the Exception Type list, select HDD Error.
3. Click the check boxes to select the HDD error alarm types.

   You can choose from Audible Warning, Notify Surveillance Center, Send Email and Trigger Alarm Output.



4. Select the alarm output for the Trigger Alarm Output.
5. Click the Apply button to save the settings.

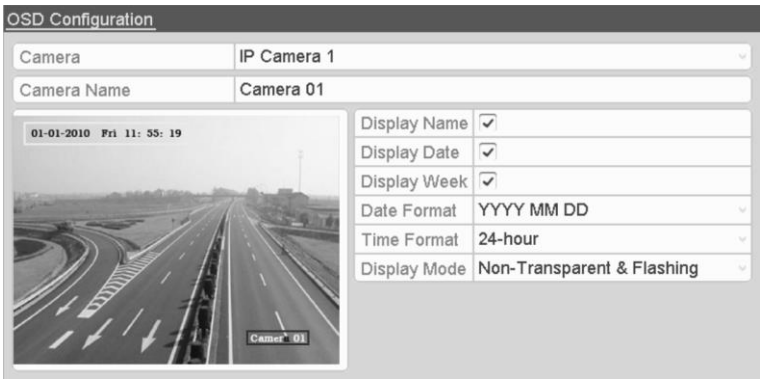
Chapter 12
Camera Settings

Configuring OSD settings

You can configure the OSD (On-screen Display) settings for the camera, including date, time, and camera name.

To configure OSD settings:

1. Enter the OSD Configuration interface (Menu > Camera > OSD).
2. Select the camera to configure OSD settings.
3. Enter the camera's name in the Camera Name field.
4. Click the Display Name, Display Date, and Display Week check boxes to select those items.
5. Select the date, time, and mode from the Date Format, Time Format, and Display Mode drop-down lists.



6. Use the mouse to click and drag the text frame in the Preview window to adjust the OSD position.
7. Click Apply to apply the settings.

Configuring privacy mask

You can configure four-sided privacy mask zones that are not viewed by the operator. The privacy mask prevents the masked surveillance areas from being viewed or recorded.

Note: There are only four configurable privacy mask.

To configure a privacy mask:

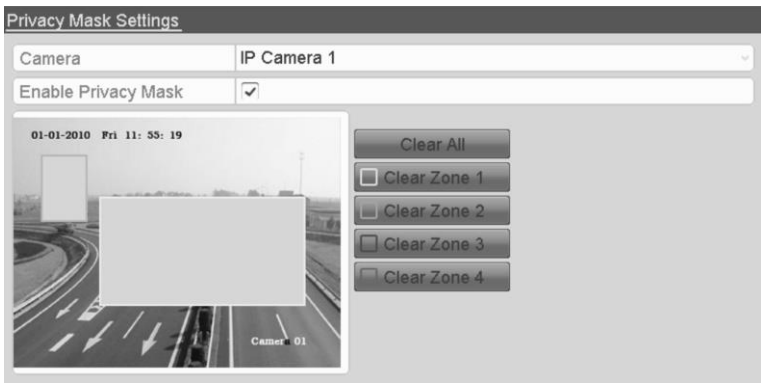
1. Enter the Privacy Mask Settings interface (Menu > Camera > Privacy Mask).
2. Select the camera to set privacy mask.
3. Click the Enable Privacy Mask check box to enable this feature.

4. Use the mouse to draw a zone on the window. The zones are marked with different frame colors.

   Note: You can clear a privacy mask zone by clicking its corresponding button.

   – or –

   Click Clear All to clear all zones.

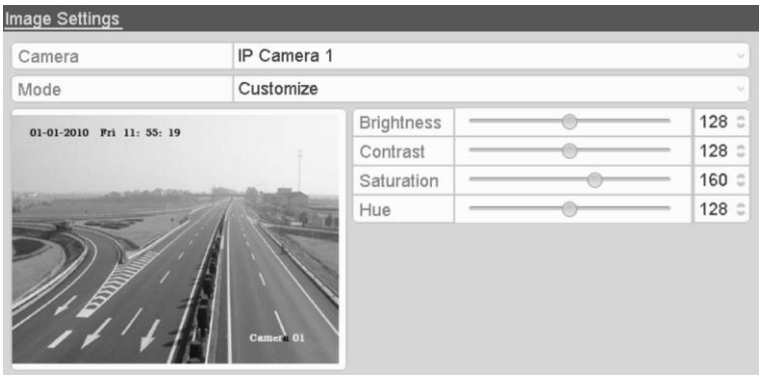


5. Click Apply to save the settings.

Configuring video parameters

To configure video parameters:

1. Enter the Image Settings interface (Menu > Camera > Image).



2. Select the camera to set its image parameters.
3. You can click the arrow to change the value of each parameter.
4. Click Apply to save the settings.

Chapter 13
NVR Management and Maintenance

Viewing system information

Using the System Information interface, you can view the device, camera, record, alarm, network, and HDD information.

To view device information:

1. Enter the System Information interface (Menu > Maintenance > System Info).
2. Click the Device Info tab to view the device name, model, serial number, firmware version, and encode version.

Device Name	Embedded Net DVR
Model	
Serial No.	XXXXXXXXXXXXXXXXXX
Firmware Version	Vx.x.x, Build xxxxxx
Encoding Version	Vx.x, Build xxxxxx

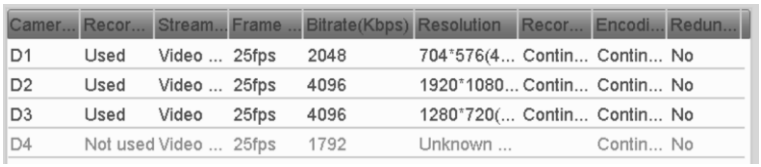
To view camera information:

1. Enter the System Information interface (Menu > Maintenance > System Info).
2. Click the Camera tab to enter the Camera Information menu to view the status of each camera.

Camer...	Camera Name	Status	Motion Det...	Video Tamp...	Video Loss
D1	Camera 01	Connected	Used	Not used	Not used
D2	Camera 01	Connected	Not used	Not used	Not used
D3	IPCamera 01	Connected	Not used	Not used	Not used
D4	Camera 01	Disconnected	Not support...	Not supported	Not support...

To view record information:

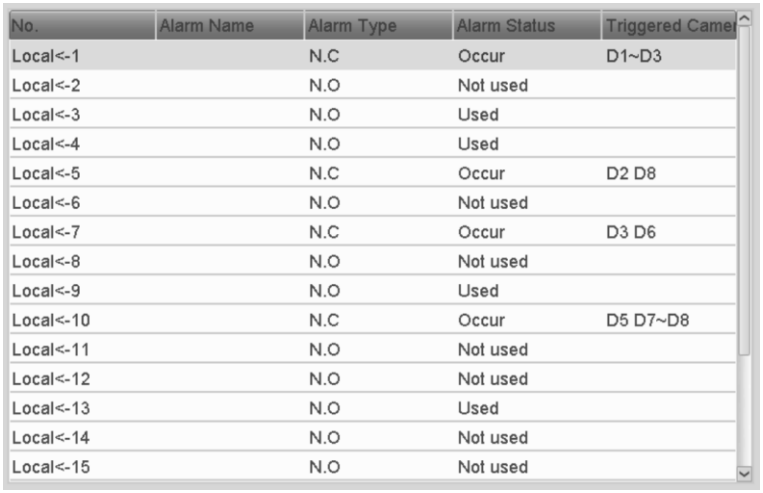
1. Enter the System Information interface (Menu > Maintenance > System Info).
2. Click the Record tab to view the recording status encoding parameters of each camera.



Camer...	Recor...	Stream...	Frame ...	Bitrate(Kbps)	Resolution	Recor...	Encodi...	Redun...
D1	Used	Video ...	25fps	2048	704*576(4...	Contin...	Contin...	No
D2	Used	Video ...	25fps	4096	1920*1080...	Contin...	Contin...	No
D3	Used	Video	25fps	4096	1280*720(...	Contin...	Contin...	No
D4	Not used	Video ...	25fps	1792	Unknown ...		Contin...	No

To view alarm information:

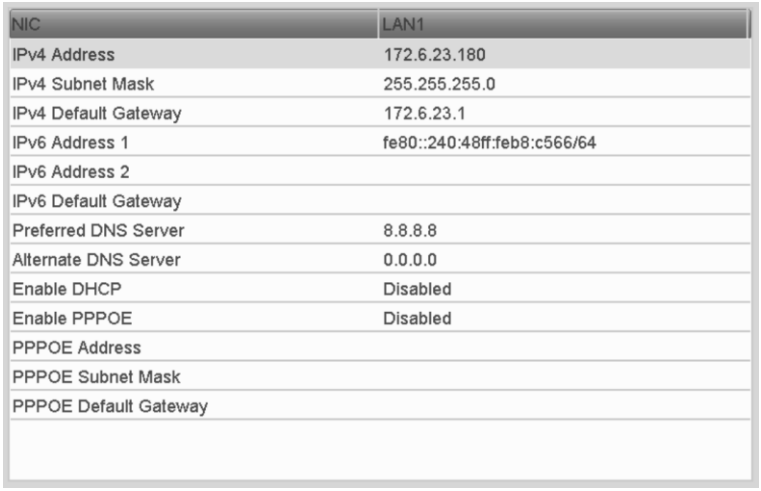
1. Enter the System Information interface (Menu > Maintenance > System Info).
2. Click the Alarm tab to enter the menu and view the alarm information.



No.	Alarm Name	Alarm Type	Alarm Status	Triggered Camer
Local<-1		N.C	Occur	D1~D3
Local<-2		N.O	Not used	
Local<-3		N.O	Used	
Local<-4		N.O	Used	
Local<-5		N.C	Occur	D2 D8
Local<-6		N.O	Not used	
Local<-7		N.C	Occur	D3 D6
Local<-8		N.O	Not used	
Local<-9		N.O	Used	
Local<-10		N.C	Occur	D5 D7~D8
Local<-11		N.O	Not used	
Local<-12		N.O	Not used	
Local<-13		N.O	Used	
Local<-14		N.O	Not used	
Local<-15		N.O	Not used	

To view network information:

1. Enter the System Information interface (Menu > Maintenance > System Info).
2. Click the Network tab to view the network information.



NIC	LAN1
IPv4 Address	172.6.23.180
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	172.6.23.1
IPv6 Address 1	fe80::240:48ff:feb8:c566/64
IPv6 Address 2	
IPv6 Default Gateway	
Preferred DNS Server	8.8.8.8
Alternate DNS Server	0.0.0.0
Enable DHCP	Disabled
Enable PPPOE	Disabled
PPPOE Address	
PPPOE Subnet Mask	
PPPOE Default Gateway	

To view HDD information:

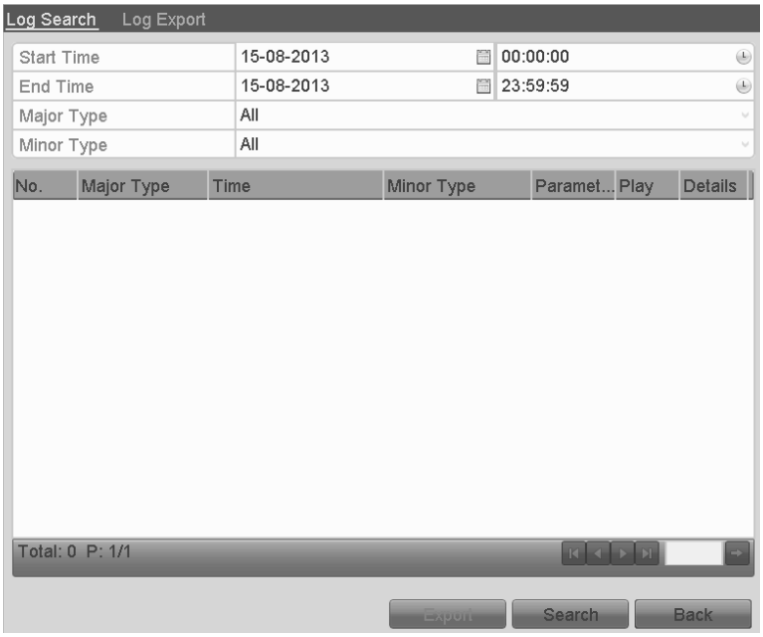
1. Enter the System Information interface (Menu > Maintenance > System Info).
2. Click the HDD tab to enter the HDD Information menu, and then view the HDD status, free space, and property.

Searching and export log files

The operation, alarm, exception and information of the NVR is stored in log files, which you is view and export at any time.

To search and export log files:

1. Enter the Log Search interface (Menu > Maintenance > Log Information).



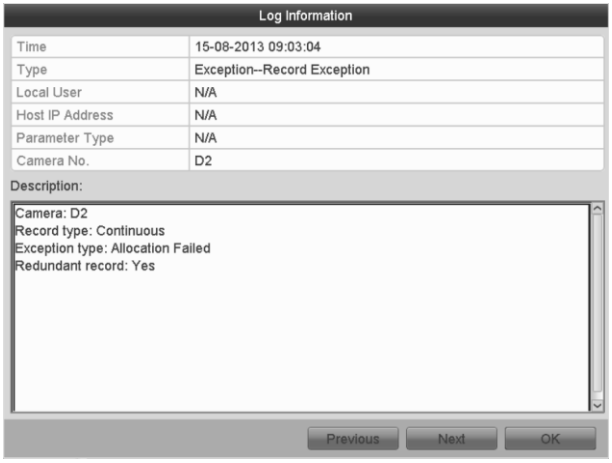
2. Set the log search conditions to refine your search, including the Start Time, End Time, Major Type, and Minor Type.
3. Click the Search button to start searching the log files.

   The matched log files display in a list, as shown below.

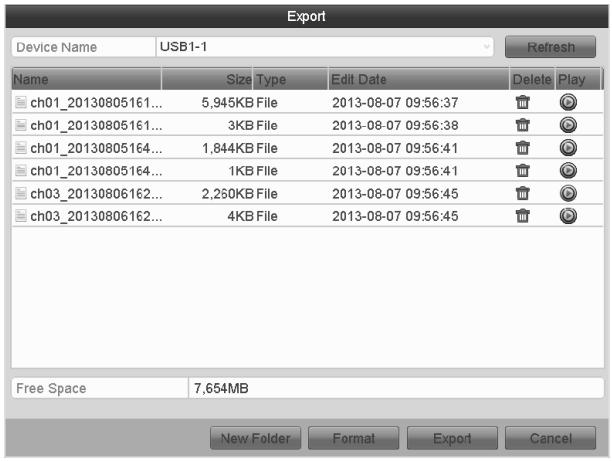
Log Search
Log Export
Start Time 15-08-2013 00:00:00
End Time 15-08-2013 23:59:59
Major Type All
Minor Type All
No. Major Type Time Minor Type Paramet... Play Details
1 Operation 15-08-2013 09:02:56 Power On N/A
2 Information 15-08-2013 09:02:56 Local HDD Infor... N/A
3 Operation 15-08-2013 09:03:00 Local Operation:... N/A
4 Operation 15-08-2013 09:03:00 Local Operation:... N/A
5 Information 15-08-2013 09:03:04 Start Recording N/A
6 Information 15-08-2013 09:03:04 Start Recording N/A
7 Information 15-08-2013 09:03:04 Start Recording N/A
8 Information 15-08-2013 09:03:04 Start Recording N/A
9 Exception 15-08-2013 09:03:04 Record Exception N/A
10 Alarm 15-08-2013 09:03:09 Start Motion Det... N/A
11 Alarm 15-08-2013 09:03:20 Stop Motion Det... N/A
Total: 559 P: 1/6

Note: Up to 2,000 log files is displayed each time.

4. You can click ☑ of each log or double-click it to view its detailed information. And you can also click ⊙ to view the related video files if available.



5. To export the log files, click the Export button to enter the Export menu.



6. Select the backup device from the Device Name drop-down list.

7. Click the Export to export the log files to the selected backup device.
8. Click the New Folder button to create a new folder in the backup device.

   – or –

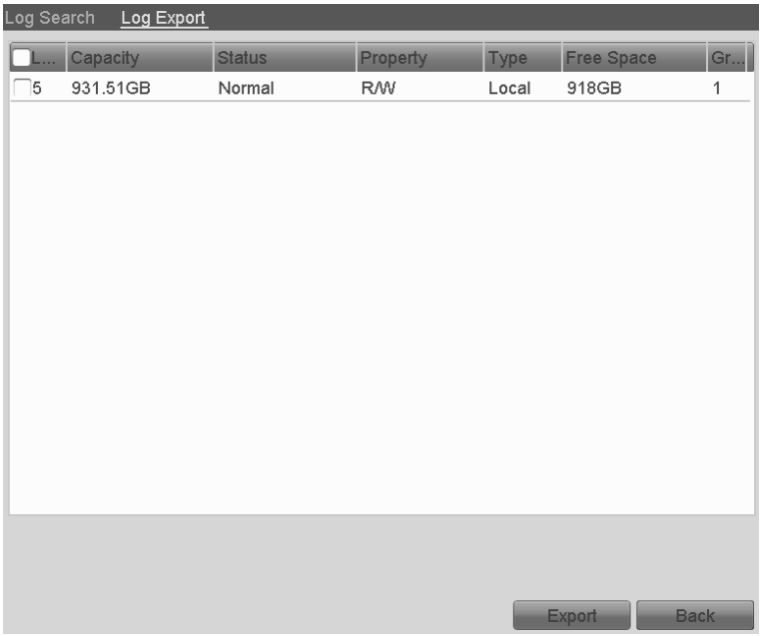
   Click the Format button to format the backup device before log export.

Notes

- Connect the backup device to NVR before operating log export.
- The log files exported to the backup device are named by exporting time – for example, *20110514124841logBack.txt*.

To export all the log files:

1. Enter the Log Information interface (Menu > Maintenance > Log Information > Log Export).
2. Click the Log Export tab.



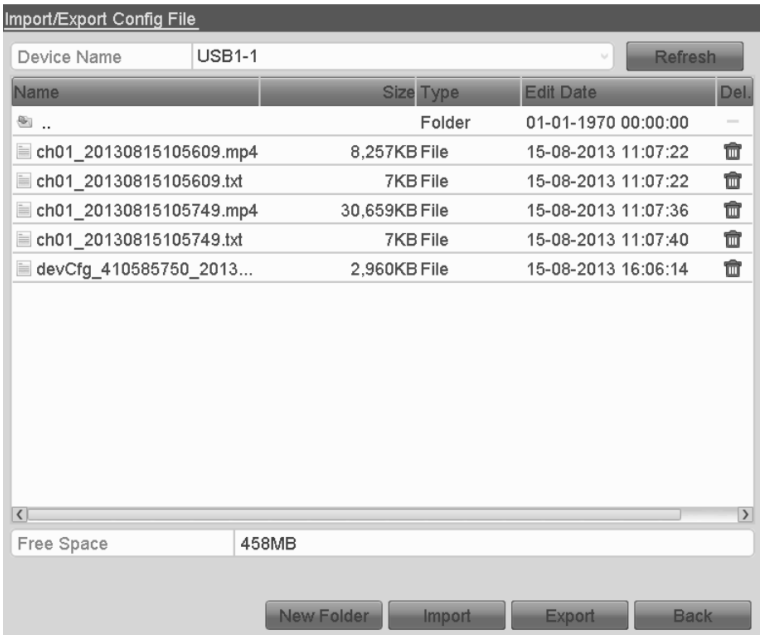
3. Click the HDD check box.
4. Click the Export button to export all of the log files stored in the HDD.

Importing and exporting configuration files

The configuration files of the NVR is exported to a local device for backup; and the configuration files of one NVR is imported to multiple NVR devices if they are configured with the same parameters.

To import and export configuration files:

1. Enter the Import/Export Configuration File interface (Menu > Maintenance > Import/Export).



2. Click the Export button to export the configuration files to the selected local backup device.
3. To import a configuration file, select the file from the selected backup device and click Import. After the import process is completed, reboot the NVR.

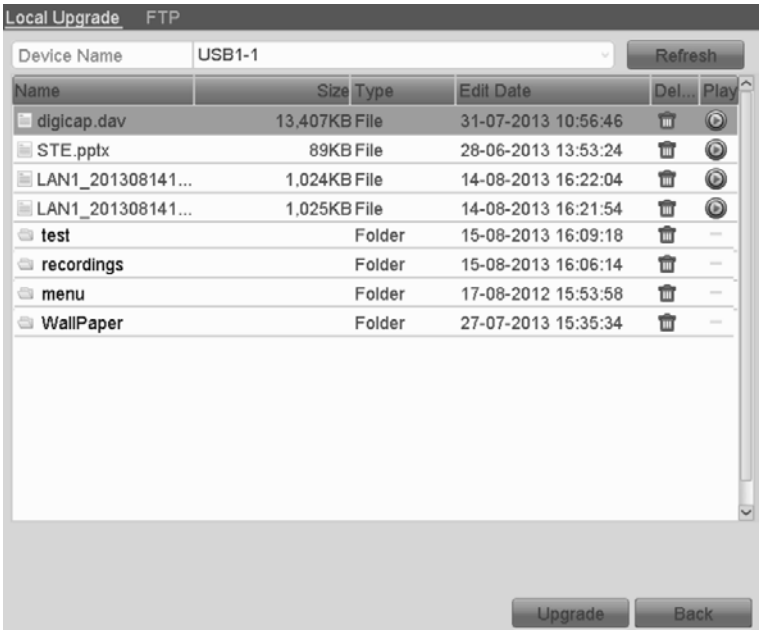
Note: When the import finishes, the device reboots automatically.

Upgrading the system

You can upgrade the firmware on your NVR from a local backup device, or a remote FTP server.

To upgrade from a local backup device:

1. Connect your NVR to the local backup device where the update firmware file is located.
2. Enter the Upgrade interface (Menu > Maintenance > Upgrade).
3. Click the Local Upgrade tab.



4. Select the update file from the backup device.
5. Click the Upgrade button to start upgrading.
6. After upgrading is complete, reboot the NVR to activate the new firmware.

Configure the PC (running FTP server) and NVR on the same LAN. Run the third-party TFTP software on the PC and copy the firmware into the root directory of the TFTP.

To upgrade via FTP:

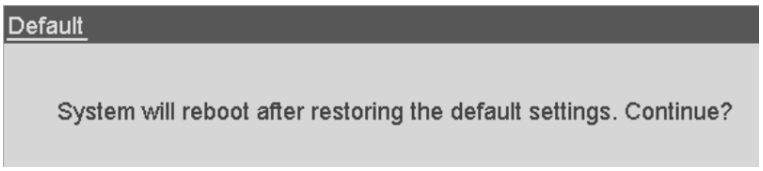
1. Enter the Upgrade interface (Menu > Maintenance > Upgrade)
2. Click the FTP tab to enter the local upgrade interface.

3. Enter the FTP server address in the text field.
4. Click Upgrade to start upgrading.
5. After the upgrade completes, reboot the NVR to activate the new firmware.

Restoring default settings

To restore default settings:

1. Enter the Default interface (Menu > Maintenance > Default).



2. Click OK to restore the default settings.

Note: Except for the network parameters (including IP address, subnet mask, gateway, MTU, NIC working mode, default route and server port), all other device parameters are restored to the factory default settings.

Chapter 14
Other Settings

Understanding camera capacity in an NVR

When setting up your NVR and cameras, you may notice that some of the camera images may not display in Live View. This most often occurs when you are displaying images in 1+5 mode or 1+7 mode, because the total bit rate for all cameras is exceeding the NVR's capacity. The actual capacity depends on the total bit rate from all the cameras. However, it is good practice to allow some headroom for machine operations, such as remote streaming.

NVR model	Capacity
4-channel	20 Mb
8-channel	40 Mb
16-channel	80 Mb
32-channel	160 Mb
64-channel	160 Mb

To fully understand NVR capacity, it is necessary to understand the concepts of streaming video, resolution, quality, and bit rate. Streaming video is content sent in a compressed form over a network and processed in real time.

Streaming video types

- Main Stream: the high quality video that is recorded and streamed.
- Sub Stream: never recorded; intended for streaming only. Default is 704 × 480, 584 Kbps at 8 fps.
- Is video alone, or video and audio compressed together. Audio requires very little bandwidth.

The combination of the main stream and sub streams makes up the total bit rate of each camera. This is expressed in Kbps (kilobits per second) or Mbps (megabits per second).

Bit rate is determined by the selected resolution (1280 × 720, 1920 × 1080, 2560 × 1920, etc.), frame rate (frames per second), and video quality (the amount of compression being applied to each camera).

Example

32 channels of 720P cameras at 15 fps with good image quality will have 32 x (1536 + 512) = 65536 Kbps (about 66Mbps), so the 32-channel NVR can support them.

Each channel can support a different camera, as long as they do not exceed the total bit rate limit. It is entirely possible to mix 5 MP cameras with 4CIF IP cameras, etc. Generally, 5 MP at 30 fps requires around 20 Mbps for best quality. A 4-channel NVR is currently limited to 16 Mbps.

Adjusting settings

Know NVR's capacity and make adjustments, if necessary. Adjust the bit rate by lowering the resolution, frame rate, or video quality setting.

To adjust the setting:

1. Enter the Live View settings interface.
2. Adjust the Resolution, Frame Rate, and Video Quality settings.

Configuring RS-232 serial ports

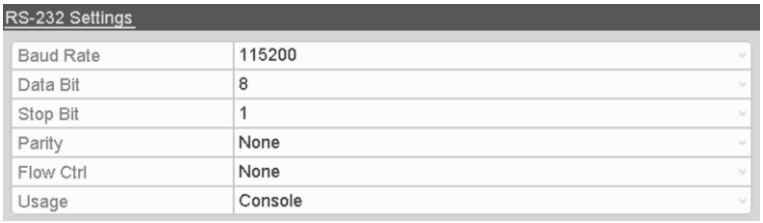
The RS-232 port is used in two ways:

Parameters Configuration: Connect a PC to the NVR through the PC serial port. Configure device parameters using software such as HyperTerminal. Set the serial port parameters to match the NVR's when connecting with the PC serial port.

Transparent Channel: Connect a serial device directly to the NVR. The PC will control the serial device remotely through the network and the protocol of that serial device.

To configure the RS-232 settings:

1. Enter the RS-232 Settings interface (Menu > Configuration > RS-232).



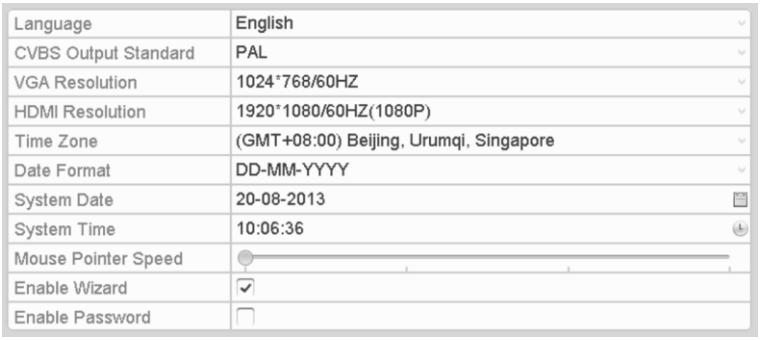
2. Configure RS-232 parameters, including baud rate, data bit, stop bit, parity, flow control, and usage.
3. Click the Apply button to save the settings.

Configuring general settings

You can configure the BNC output standard, VGA output resolution, mouse pointer speed through the Menu > Configuration > General interface.

To configure general settings:

1. Enter the General Settings interface (Menu > Configuration > General).
2. Select the General tab.



3. Configure the following settings:

   Language: The language used is English.

   CVBS Output Standard: Set the CVBS output standard to NTSC or PAL to match the video input standard.

   VGA Resolution: Set the VGA output resolution to match the monitor screen.

   HDMI Resolution: Sett the HDMI resolution to match the monitor screen.

   Time Zone: Set the time zone.

   Date Format: Set the date format.

System Date: Set the system date.

System Time: Set the system time.

Mouse Pointer Speed: Set the speed of mouse pointer; four levels are configurable.

Enable Wizard: Enable/disable the Wizard when the device starts up.

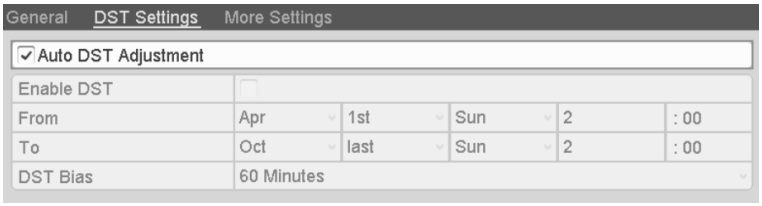
Enable Password: Enable/disable the use of the login password.

4. Click the Apply button to save the settings.

Configuring DST settings

To configure DTS settings:

1. Enter the General Settings interface (Menu > Configuration > General).
2. Choose DST Settings tab.



3. Check the Auto DST Adjustment check box.

   - or -

   Check the Enable DST check box, and then enter the date for the DST period.

Configuring more settings for device parameters

To configure more settings:

1. Enter the General Settings interface (Menu > Configuration > General).
2. Click the More Settings tab to enter the More Settings interface.

3. Configure the following settings:

   Device Name: Edit the name of NVR.

Device No.: Edit the serial number of NVR. The device number is set in the range from 1 to 255. The default number is 255. It is used for the remote and keyboard control.

CVBS Output Brightness: Adjust the video output brightness.

Auto Logout: Set timeout time for menu inactivity. For example, when the timeout time is set to five Minutes, the system will exit from the current operation menu to the Live View screen after 5 minutes of menu inactivity.

Menu Output Mode: You can choose the menu display on different video output. There are auto, HDMI, VGA and Main CVBS selectable.

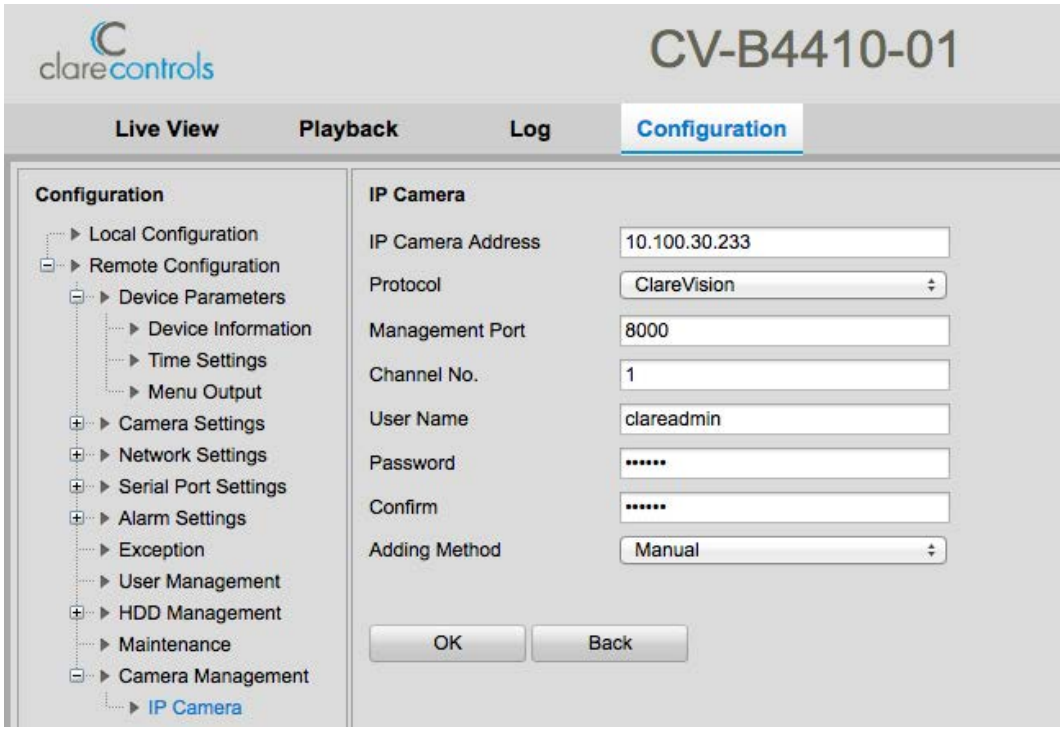
4. Click the Apply button to save the settings.

Adding an NVR using the web interface

You can add MVRs using the web interface for the 16 channel, 32 channel, and 64 channel NVR only.

To add a camera using the web interface:

1. Enter the Camera Management interface (Menu > Configuration > Camera Management > IP Camera).



2. Configure the IP cameras parameters.

   IP Camera Address: The camera's IP address

   Protocol: Protocol being used

   Management Port: Port number being used to manage the NVR

   Channel No.: Channel being used by the NVR

   User Name: User name to log into the NVR

   Password: Password to log into the NVR

   Confirm: Password confirmation

   Adding Method: The method used to add the IP Camera

3. Click OK to add the camera.

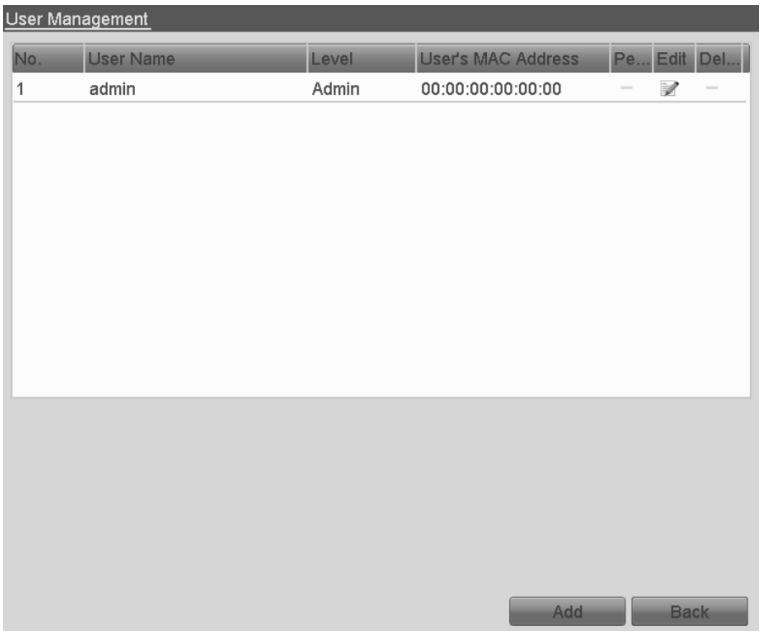
Managing user accounts

There is a default account in the NVR. The Administrator user name is "clareadmin" and the password is "secure7". The Administrator has the permission to add and delete users and configure user parameters.

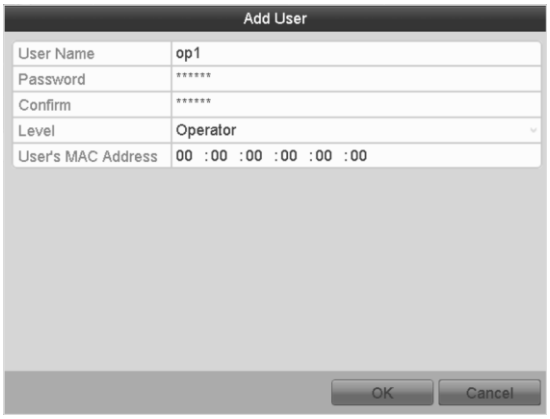
Adding a user

To add a user:

1. Enter the User Management interface (Menu > Configuration > User).



2. Click the Add button to enter the Add User interface.



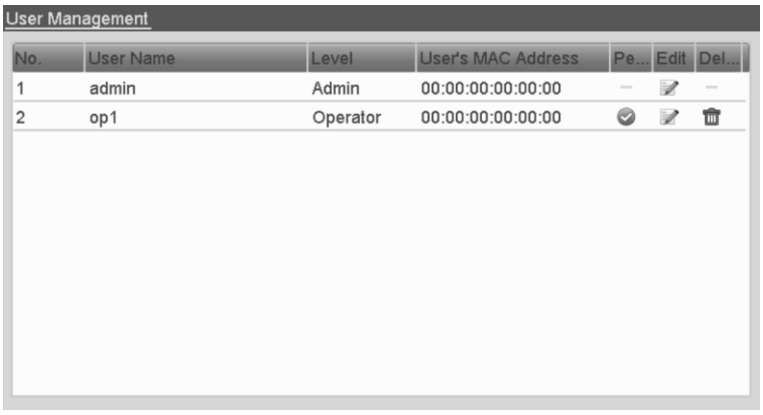
3. Enter the information for the new user, including User Name, Password, Level and User's MAC Address.

   Level: Set the user level to Operator or Guest. Different user levels have different operating permission.

   - **Operator:** The Operator user level has permission for Two-way Audio in Remote Configuration and all operating permission in Camera Configuration by default.
   - **Guest:** The Guest user does not have permission to use Two-way Audio in Remote Configuration and only has the local/remote playback in the Camera Configuration by default.

   User's MAC Address: The MAC address of the remote PC that logs onto the NVR. If it is configured and enabled, it only allows the remote user with this MAC address to access the NVR.

4. Click OK to save the settings and go back to the User Management interface. The added new user displays on the list.



5. Select the user from the list and then click to enter the Permission settings interface.

6. Set the operating permission for the Local Configuration, Remote Configuration, and Camera Configuration for the user.

   Local configuration

   - Local Log Search: Searching and viewing logs and system information of NVR.
   - Local Parameters Settings: Configuring parameters, restoring factory default parameters and importing/exporting configuration files.
   - Local Camera Management: The adding, deleting and editing of IP cameras.
   - Local Advanced Operation: Operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I/O alarm output.
   - Local Shutdown Reboot: Shutting down or rebooting the NVR.

   Remote configuration

   - Remote Log Search: Remotely viewing logs that are saved on the NVR.
   - Remote Parameters Settings: Remotely configuring parameters, restoring factory default parameters and importing/exporting configuration files.
   - Remote Camera Management: Remote adding, deleting and editing of the IP cameras.
   - Remote Serial Port Control: Configuring settings for RS-232 and RS-485 ports.
   - Remote Video Output Control: Sending remote button control signal.
   - Two-Way Audio: Realizing two-way radio between the remote client and the NVR.

- Remote Alarm Control: Remotely arming (notify alarm and exception message to the remote client) and controlling the alarm output.
- Remote Advanced Operation: Remotely operating HDD management (initializing HDD, setting HDD property), upgrading system firmware, clearing I/O alarm output.
- Remote Shutdown/Reboot: Remotely shutting down or rebooting the NVR.

Camera configuration

- Remote Live View: Remotely viewing live video of the selected cameras.
- Local Manual Operation: Locally starting/stopping manual recording, picture capturing and alarm output of the selected cameras.
- Remote Manual Operation: Remotely starting/stopping manual recording, picture capturing and alarm output of the selected cameras.
- Local Playback: Locally playing back recorded files of the selected cameras.
- Remote Playback: Remotely playing back recorded files of the selected cameras.
- Local PTZ Control: Locally controlling PTZ movement of the selected cameras.
- Remote PTZ Control: Remotely controlling PTZ movement of the selected cameras.
- Local Video Export: Locally exporting recorded files of the selected cameras.

7. Click OK to save the settings and exit interface.

Note: Only the *admin* user account has permission of restore the factory default parameters.

Deleting a user

To delete a user:

1. Enter the User Management interface (Menu > Configuration > User).
2. Select the user to delete from the list.
3. Click to delete the selected user.

Editing a user

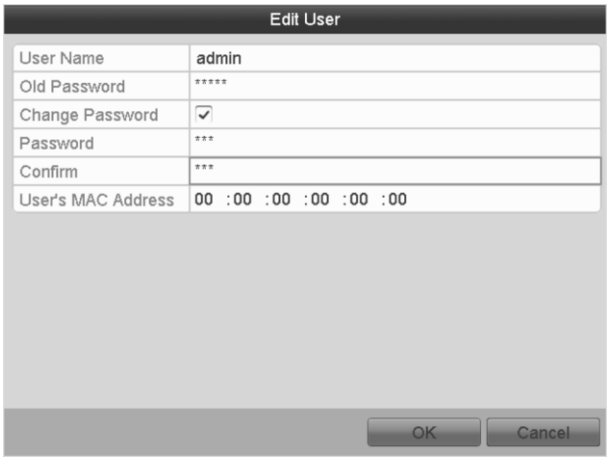
To edit a user:

1. Enter the User Management interface (Menu > Configuration > User).
2. Select the user edited from the list, as shown below.
3. Click to enter the Edit User interface.

   Note: You can edit the admin user.

Figure 40: Edit User interface for operator and guest

Figure 41: Edit User interface for administrator



4. Edit the following parameters.

   Operator and Guest

   - You can edit the user information, including user name, password, permission level, and MAC address.
   - Check the Change Password check box when you want to change the password, and then enter the new one in the Password and Confirm fields.

   Admin

   - You are only allowed to edit the password and the MAC address.
   - Check the Change Password check box when you want to change the password, and then enter the old and new passwords in the Password and Confirm fields.

5. Click OK to save the settings and exit the menu.

Appendix A
Troubleshooting

No image displayed on the monitor after starting up normally.

Possible reasons:

- No VGA or HDMI connections
- Connection cable is damaged
- Input mode of the monitor is incorrect

Solution:

1. Verify the device is connected with the monitor via HDMI or VGA cable.

   If not, connect the device with the monitor and reboot.

2. Verify the connection cable is good.

   If there is still no image display on the monitor after rebooting, check the connection cable to ensure that it is good, and change a cable to connect again.

3. Verify that the Input mode of the monitor is correct.

   Check that the input mode of the monitor matches with the output mode of the device. For example, if the output mode of the NVR is HDMI output, then the input mode of monitor is HDMI input. If it is not, modify the input mode of the monitor.

4. Check steps 1 to 3 for resolution.

   If it is solved, finish the process.

   If not, contact the engineer to do further investigation.

There is an audible warning sound “Di-Di-Di-DiDi” after a new NVR boots.

Possible reasons

- No HDD is installed in the device
- The installed HDD has not been initialized
- The installed HDD is not compatible with the NVR or is broken

Solution:

1. Verify at least one HDD is installed in the NVR.

   If not, install the compatible HDD.

   If you do not want to install the HDD, select Menu > Configuration > Exceptions, and then clear the Audible Warning check box for “HDD Error”.
2. Verify the HDD is initialized.

   Select Menu > HDD > General.

   If the status of the HDD is Uninitialized, check the check box of corresponding HDD, and then click the Init button.
3. Verify the HDD is detected or is in good condition.

   Select Menu > HDD > General.

   If the HDD is not detected or the status is Abnormal, replace the dedicated HDD according to the requirement.
4. Check steps 1 to 3 for resolution.

   If it is solved, finish the process.

   If not, contact the engineer to do further investigation.

The status of the added IPC displays as “Disconnected” when it is connected through Private Protocol. Select Menu >Camera > Camera>IP Camera to get the camera status.

Possible reasons:

- Network failure, and the NVR and IPC lost connections
- The configured parameters are incorrect when adding the IPC
- Insufficient bandwidth

Solution:

1. Verify the network is connected.

   Connect the NVR and PC with the RS-232 cable.

   Open the Super Terminal software, and execute the ping command. Input “ping IP” (e.g., ping 172.6.22.131).

   Note: Press Ctrl + C to exit the ping command.

   If there exists return information and the time value is little, the network is normal.

2. Verify the configuration parameters are correct.

   Select Menu > Camera > Camera > IP Camera.

   Verify the following parameters are the same with those of the connected IP devices, including IP address, protocol, management port, user name and password.

3. Verify that there is enough bandwidth.

   Select Menu > Maintenance > Net Detect > Network Stat..

   Check if the access bandwidth has reached its limit.

4. Check steps 1 to 3 for resolution.

   If it is solved, finish the process.

   If not, contact the engineer to do the further process.

The IPC frequently goes online and offline and the status of it displays as “Disconnected”.

Possible reasons:

- The IPC and the NVR versions are not compatible
- Unstable power supply of IPC
- Unstable network between IPC and NVR
- Limited flow by the switch connected with IPC and NVR

Solution:

1. Verify the IPC and the NVR versions are compatible.

   Enter the IPC Management interface (Menu > Camera > Camera > IP Camera), and view the firmware version of connected IPC.

   Enter the System Info interface (Menu > Maintenance > System Info > Device Info), and view the firmware version of NVR.

2. Verify power supply of IPC is stable.

   Verify the power indicator is normal.

   When the IPC is offline, try the ping command on the PC to check if the PC connects with the IPC.

3. Verify that the network between IPC and NVR is stable.

   When the IPC is offline, connect PC and NVR with the RS-232 cable.

   Open the Super Terminal, use the ping command, and keep sending large data packages to the connected IPC. Check if there is a packet loss.

   Note: Press Ctrl + C to exit the ping command.

   Example: Input **ping 172.6.22.131 –l 1472 –f.**

4. Verify that the switch is not flow control.

   Check the brand, model of the switch connecting IPC and NVR, and contact the switch manufacturer to check if it has the function of flow control. If so, turn it down.

5. Check steps 1 to 4 for resolution.

   If it is solved, finish the process.

   If not, contact the engineer to do the further process.

Using the IPC to connect a device remotely, with no NVR monitor connection, is successful. Using a monitor (VGA or HDMI) to connect devices is unsuccessful, resulting in a blank screen with a mouse cursor.

Prior to startup, connect the NVR to the monitor using VGA or HDMI. Connect the device, locally or remotely, using IPC. The result displays it is connected, but there is a blank screen with a mouse cursor

Possible reasons:

- After connecting the IPC to the NVR, the image output is the main spot interface by default.

Solution:

1. Enable the output channel.
2. Select Menu > Configuration > Live View > View, select video output interface in the drop-down list, and configure the window you want to view.

   Note: The view settings are only configurable by local NVR operation.

   Different camera orders and window-division modes is set for different output interfaces. Digit “D1”and “D2” stands for the channel number, and “X” means the selected window has no image output.

3. Verify that the steps used above solved the problem.

   If it is solved, finish the process.

   If not, contact the engineer to do further investigation.

Live view stuck when video output locally.

Possible reasons*:*

- Poor network between the NVR and the IPC, with packet loss during the transmission.
- The frame rate has not reached the real-time frame rate.

Solution:

1. Verify the network between NVR and IPC is connected.

   When image is stuck, connect the RS-232 ports on PC and the rear panel of NVR with the RS-232 cable.

   Open the Super Terminal, and execute the command “ping 192.168.0.0 –l 1472 –f” (the IP address may change according to the real condition), and verify if there is packet loss.

   Note: Press Ctrl + C to exit the ping command.
2. Verify the frame rate is a real-time frame rate.

   Select Menu > Record > Parameters > Record, and then set the frame rate to full frame.
3. Verify that the steps used above solved the problem.

   If it is solved, finish the process.

   If not, contact the engineer to do further investigation.

Live view stuck when video output remotely via the Internet Explorer or platform software.

Possible reasons:

- Poor network between the NVR and the IPC, with packet loss during the transmission
- Poor network between the NVR and the PC, with packet loss during the transmission
- The performances of hardware are not sufficient, including CPU, memory, etc.

Solution:

1. Verify the network between NVR and IPC is connected.

   When image is stuck, connect the RS-232 ports on the PC and the rear panel of NVR with an RS-232 cable.

   Open the Super Terminal, and execute the command “ping 192.168.0.0 –l 1472 –f” (the IP address may change according to the real condition), and check for packet loss.

   Note: Press Ctrl + C to exit the ping command.

2. Verify the network between the NVR and the PC is connected.

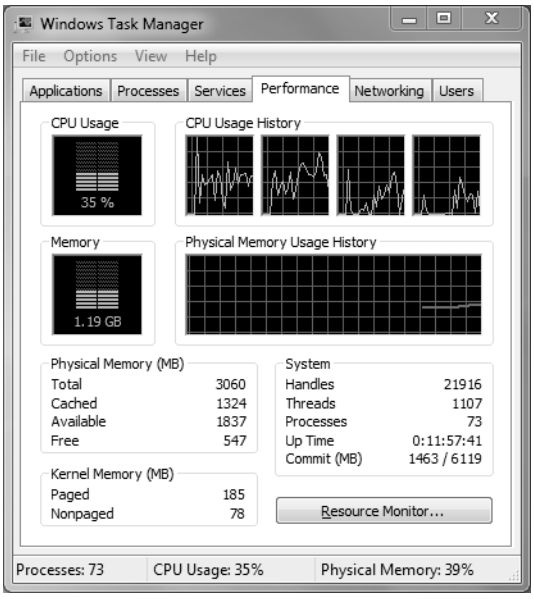
   Open the cmd window in the Start menu, or you can press “windows+R” shortcut key to open it.

   Use the ping command to send large packets to the NVR, enter the command “ping 192.168.0.0 –l 1472 –f” (the IP address may change according to the real condition), and check for packet loss.

   Note: Press Ctrl + C to exit the ping command.

3. Verify the hardware of the PC is sufficient.

   Press Ctrl/Alt/ Delete to enter the windows task management interface, as shown in the following figure.



   Select the Performance tab, and then check the status of the CPU and memory.

   If the resource is not enough, end any unnecessary processes.

4. Check if the fault is solved by the above steps.

If it is solved, finish the process.

If not, contact the engineer to do the further process.

When using the NVR to get the live view audio, there is no sound or there is too much noise, or the volume is too low.

Possible reasons*:*

- Cable between the pickup and IPC is not connected well; impedance mismatches or incompatible
- The stream type is not set as Video & Audio
- The encoding standard is not supported with NVR

Solution*:*

1. Verify the cable between the pickup and IPC is connected well; impedance matches, and is compatible.

   Log in the IPC directly, turn the audio on, and check that the sound is normal. If not, contact the manufacturer of the IPC.

2. Verify the setting parameters are correct.

   Select Menu > Record > Parameters > Record, and set the Stream Type as Audio & Video.

3. Verify the audio encoding standard of the IPC is supported by the NVR.

   NVR supports G722.1 and G711 standards, and if the encoding parameter of the input audio is not one of the previous two standards, you can log in the IPC to configure it to the supported standard.

4. Check if the fault is solved by the above steps.

   If it is solved, finish the process.

   If not, contact the engineer to do the further process.

The image gets stuck when NVR is playing back by single or multi-channel.

Possible Reasons:

- Poor network between NVR and IPC, and there is packet loss during the transmission
- The frame rate is not the real-time frame rate
- The NVR supports up to 16-channel synchronize playback at the resolution of 4CIF. If you want a 16-channel synchronize playback at the resolution of 720p, frame extracting may occur.

Solution:

1. Verify the network between NVR and IPC is connected.

   When the image is stuck, connect the RS-232 ports on PC and the rear panel of NVR with the RS-232 cable.

   Open the Super Terminal, and execute the command of “ping 192.168.0.0 –l 1472 –f” (the IP address may change according to the real condition), and check for packet loss.

   Note: Press the Ctrl + C to exit the ping command.

2. Verify that the frame rate is the real-time frame rate.

   Select Menu > Record > Parameters > Record, and set the frame rate to full frame.

3. Verify that the hardware can handle playback.

   Reduce the channel number of playback.

   Select Menu > Record > Encoding > Record, and then set the resolution and bitrate to a lower level.

4. Reduce the number of local playback channels.

   Select Menu > Playback, and clear the check box of unnecessary channels.

5. Check if the fault is solved by the above steps.

   If it is solved, finish the process.

   If not, contact the engineer to do the further process.

No record file found in the NVR local HDD, and prompt “No record file found”.

Possible reasons:

- Incorrect system time setting
- The search condition is incorrect
- HDD is in error or is not detected

Solution:

1. Verify the system time setting is correct.

   Select Menu > Configuration > General > General, and verify the device time is correct.

2. Verify the search condition is correct.

   Select Playback, and verify the channel and time are correct.

3. Verify the HDD status is normal.

   Select Menu > HDD > General to view the HDD status, and verify the HDD is detected and is read and written normally.

4. Check if the fault is resolved.

   If it is resolved, finish the process. If not, contact the engineer to do the further process.

Glossary

Dual Stream	Dual stream is a technology used to record high-resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the DVR, with the main stream having a maximum resolution of 4CIF and the sub-stream having a maximum resolution of CIF.
HDD	Hard Disk Drive. A storage medium that stores digitally encoded data on platters with magnetic surfaces.
DHCP	Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.
HTTP	Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext request and information between servers and browsers over a network
PPPoE	PPPoE, Point-to-Point Protocol over Ethernet, is a network protocol for encapsulating Point-to-Point Protocol (PPP) frames inside Ethernet frames. It is used mainly with ADSL services where individual users connect to the ADSL transceiver (modem) over Ethernet and in plain Metro Ethernet networks.
DDNS	Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.
Hybrid DVR	A hybrid DVR is a combination of a DVR and NVR.
NTP	Acronym for Network Time Protocol. A protocol designed to synchronize the clocks of computers over a network.
NTSC	Acronym for National Television System Committee. NTSC is an analog television standard used in such countries as the United States and Japan. Each frame of anNTSC signal contains 525 scan lines at 60 Hz.
NVR	Acronym for Network Video Recorder. An NVR is a PC-based or embedded system used for centralized management and storage for IP cameras, IP Domes and other DVRs.
PAL	Acronym for Phase Alternating Line. PAL is also another video standard used in broadcast televisions systems in large parts of the world. PAL signal contains 625 scan lines at 50 Hz.
PTZ	Acronym for Pan, Tilt, Zoom. PTZ cameras are motor driven systems that allow the camera to pan left and right, tilt up and down and zoom in and out.
USB	Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to interface devices to a host computer.